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# Answers to Legal Problems

Air Applicator Institute

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ANSWERS to

# • LEGAL • PROBLEMS



## Air Applicator

**INFORMATION SERIES**

Vol. 5

# **ANSWERS TO LEGAL QUESTIONS**

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COMPILED AND EDITED  
BY

THE AIR APPLICATOR INSTITUTE

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BY

AGRICULTURAL AVIATION ACADEMY

DOUGLAS COUNTY AIRPORT

MINDEN, NEVADA



# What this book is about

The purpose of this volume is to provide a working knowledge of the federal, state and local laws which control the air-application industry. This volume also provides information on the sources of the regulations now existing and makes suggestions for obtaining professional information of a legal nature.

It is *not* the purpose of this volume to interpret *legal procedure*. To attempt to offer a set of rules by which you might be guided in the many possible legal aspects of the air-applicating industry would be presumptuous and impossible. Always see a competent lawyer for legal advice when in any doubt. The following pages suggest some of the legal problems which may arise in the course of normal operations. The Air-Applicator Institute wishes to gratefully acknowledge the assistance of the many individuals and organizations who so generously furnished much of the information contained in this volume. Among those who contributed were the Directors of the State Departments of Aeronautics, the State Departments of Agriculture, State Legal Councils, the U. S. Department of Agriculture, the Pure Food and Drug Division of the Federal Security Agency and the Federal Aviation Administration.

Regulations controlling the air-application of chemicals are piece-meal and vary widely over the nation — a situation to be expected in every new industry. Some states have no regulations whatever, while other states such as North Dakota and Nebraska have very comprehensive sets of air-applicator rules.

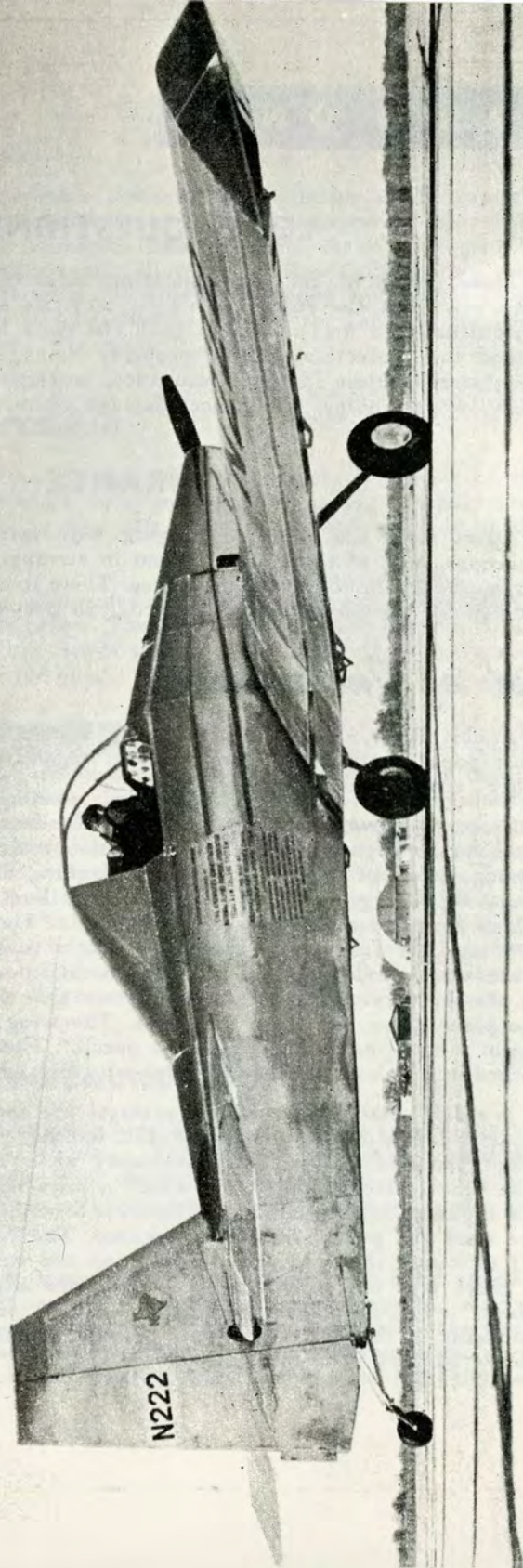
The regulations of the *federal government* of course are the same throughout the nation. Federal rules are discussed fully in *part three* of this volume.

State regulations are covered fully in *part four*.

*Part five* describes a model state *agricultural aviation act* which was prepared cooperatively by the state officials in the interest of encouraging, in so far as possible, *uniformity* in state legislation. Parts one and two of this volume deal with the areas in which legal problems may arise.

Fig. 1.

AG-1 Prototype Combination Sprayer - Duster.





# PART ONE

## LEGAL QUESTIONS

Those phases of the air-applicating industry which have a legal basis are first: the rules and regulations of the departments of agriculture and aviation at both the state and federal levels and second the protection against property damage and public liability. The latter subject involves insurance, workman's compensation, liability, responsibility, negligence, damage claims and waivers.

## INSURANCE

Apart from the actual complying with established rules and regulations, most of the legal problems in air-application centers around *responsibility, liability* and insurance. These items must be thoroughly studied by the air-applicator in order to prevent costly litigation.

### *Kind of Insurance*

Almost every kind of insurance is available for air-applicators. the most popular types of insurance are: property damage, public liability, and chemical liability.

*Property damage* insurance protects the insured from the damage his airplane might do in case of a collision with some ones building or damage to crops in case of a forced landing. The necessity for both *property damage* and *public liability* is illustrated by an accident which occurred at Roundway, Mississippi. "The pilot flying a Boeing B75 took off from a cow pasture directly toward a house. The aircraft was over-loaded for the wet condition of the field, according to the evidence. The pilot struck a tree and while attempting to set the plane down flew into the house. The wing struck and broke the leg of a small boy standing on the porch." There are several cases on record in which the crashed airplane set a fire which damaged property.

*Property Liability* insurance protects the insured against personal injuries caused by his airplane. Public liability insurance is a necessity when *potentially dangerous* machinery or equipment is used. The case near Dutton, Montana in which a pilot struck an automobile on the highway while making his last swath run, "is another example of the need for public liability insurance. The right gear was sheared off as it tore the left portion of the top and windshield from the car. A three year old child was killed and two adults were seriously injured." The fact that there have been 10 propeller and tail rotor accidents in the past four years further illustrates the necessity for *public liability* insurance.

*Chemical liability insurance* protects the applicator in the case the spray or dust drifts to another field and damage crops other than those of his customer. Numerous damage claims have been paid by air-applicators who inadvertently allowed chemicals to leak from their spray system or to drift with the wind to adjoining susceptible crops. Some states require up to \$25,000.00 surety in the form of bonds or insurance to cover such situations.

## Selecting Insurance

Insurance ought to be selected with utmost care. Because of the complicated manner in which many insurance policies are worded, many air applicators neglect to find out what actual coverage is in the policy.

The better insurance companies are less likely to make obscure the non-coverage with fine print. These are often labeled *conditions, exclusions and endorsements*. Study these elements carefully or have your attorney pass on them for you.

Note particularly those policies which state that all F.A.A. and State regulations must be complied with. It is very difficult under present wording of some federal and state regulations to know for *sure* that all flying is in strict compliance. For example: the Federal Regulations require that the airplane be flown in such a manner as not to *endanger* life and property. (F.A.R. 60.12) If a pilot has an accident and damages property he immediately is in violation, according to the literal interpretation. What does this do to the insurance policy? Many insurance companies would not take such advantage, however, it is best to have a clear understanding regarding all restrictive wording. Your cheapest insurance usually is with those companies with the highest reputation and not with the one advertising the lowest premiums.

## Workman's Compensation

Workman's compensation is not available for the occupation of *agricultural pilot* in many states. This presents a problem. Some applying contracts specify that the air-applicating company must provide workman's compensation insurance for all pilots used in the performance of the contract.

To meet this problem, some operators are reported to have provided their pilots with life insurance policies carrying adequate survivor benefits in return for a contract with the pilot which waives the workman compensation. The satisfactoriness of this arrangement also varies with states. It is a problem, however, which needs to be carefully con-



sidered and the possibilities fully investigated. First, consult in person or by mail your state workman compensation insurance office. If no workman compensation is available for the agricultural pilot category then consult a reliable insurance agent.

Consideration must be given to the dependents of pilots and other employees who in case of accident might have a basis of claim against the applying firm. This is particularly important in view of the hazardous nature of many of the newer chemicals.

## *Protection for Own Crops*

At present a grower cannot get insurance for the crop which he is treating with chemicals nor for his other crops in adjoining fields. He can get coverage only for the other man's crops. At least one large underwriter, however, is said to be working on the development of a policy which will give the grower protection for damage to his own crop. At first it might appear that a man's own crop, *of necessity*, is uninsurable. Such coverage is not impracticable, however, when written with a substantial deductible clause and the requirement that dosage recommendations, timing and formulation be specified by a qualified independent agronomist.

## *Is Liability Insurance Compulsary*

The answer to this question varies with states. Some states require property damage and public liability for the airplane. Others require in addition insurance against chemical damage to the crops of others. To ascertain these requirements consult with the state departments of agriculture and aeronautics for the latest regulations. See Volume Six, Directory, for a list of addresses of state departments of agriculture and aviation.

## RESPONSIBILITY

The air-applicator's responsibilities are many and grave but by no means prohibitive. The important thing is that he know what his responsibilities and liabilities are and then to take full precautions. Some of these responsibilities are as follows:

### *Financial Responsibility*

Are air-applicators required to furnish bonds or proof of financial responsibility before engaging in agricultural aviation? The answer to this question will vary with states. Many states now require a cash bond, an insurance policy, or proof of financial responsibility. Some states are in the process of establishing new regulations of this type.



## LEGAL PROBLEMS

This requirement arises from the possibility of damage due to carelessness in allowing chemicals to drift or to an airplane crashing into buildings or fields and causing damage, the cost of which the air applicator must be able to bear.

### *What Does the FAA Waiver Waive?*

This subject is covered more thoroughly under federal regulations in Part Three. For emphasis it is mentioned here. The value of the waiver as an administrative device is questionable but it is the best the F.A.A. can do at present. The waiver usually waives the minimum altitude rule allowing flight at less than 500 feet over the field being treated. It does not authorize low flight over persons or property adjoining the field. An applicator is supposed to obtain permission from owners to fly at less than 500 feet over their property. The waiver sometimes permits flying during twilight and dawn without navigation lights. It does not permit *low flight* to or from the areas treated. The F.A.A. waiver or state waiver does not authorize an air-applicator to jeopardize anyone's life or property, including the adjoining crops.

### *Official Permissions*

Do authorizations such as the F.A.A. waiver, state registration or the obtaining of a county permit, in any manner mitigate or relieve the grower and applicator of their responsibility? In most cases the answer is no, for these waivers, regulations and authorizations are for a specific purpose and in no way authorize the operator or grower to engage in any action which might cause damage to a neighbor's life or property. Applicators should recognize that these authorizations in no way relieve him of his full *personal* responsibility. The government will never assume any part of the responsibility. Their waivers, regulations and permits are cleverly worded so as to relieve them of all responsibility.

### *Disposal of Empty Containers*

There is always a possibility of animals or children becoming poisoned by empty containers unless they are properly burned or buried. Refuse left over from mixing plants or bait loading stations have killed cattle and have, therefore, been sources of liability. Many state air-applicator laws specifically require the safe disposal of all poisonous chemical containers. There are several cases of record in which cattle have been killed by licking up the poisoned bran littered ground of a grasshopper mixing station. In one case a pilot had a forced landing while baiting a range area. He dumped his load before taking off. Range cattle ate the bait and died. Another pilot crashed and a con-

siderable amount of bait was thrown from the plane. Cattle again were poisoned. Utmost care should be used to bury or otherwise destroy all empty containers or excess materials.

## *Warning Owners of Bees and Stock*

Some states require by law that applicators give notice to bee keepers and stock men in the area before applying any harmful chemical. Although other states do not have this legal requirement, the responsibility for damage is just as real. Furthermore, it is good public relations for the air-applicator or grower to consult with the neighbors, advising them fully of plans for dusting or spraying. Many air-applicators have not only won the good will and respect but have gained new customers through the contact.

Rather than take any chances on damage claims it is better to move stock when it appears that there is a possibility of drift. In most cases an amicable arrangement can be made with adjoining owners on such problems. Efforts to protect everyone's interests will be appreciated and seldom will it be impossible to get mutual cooperation if the matter is approached with full consideration to the rights of others. Failure to give notice would result in a damage claim as noted in a later discussion of liability.

## *Responsibility for Negligence*

This is an elementary question and should serve only to emphasize that negligence is never excusable. You cannot afford to use dangerous chemical materials unless you are fully familiar with them nor should you apply any materials in such a manner as to take even an outside chance in jeopardizing the life of persons, animals, or damaging crops. Existing general laws make you subject to *civil* and even *criminal* suit if you do so. In other words negligence is never excusable and is always a possible cause of action.

## *Responsibility for Drift*

Although actual proof that crop damage was the result of your application on a specific job might be difficult, you and your customer are liable to suit if you allow chemicals to drift to adjoining fields. Some growers are becoming claim conscious. No competent operator will take chances on drift. As an additional protection, the job sheet used ought to specify the wind conditions which existed at the time of application. See elsewhere discussion on use of wind indicators. Some operators are providing themselves with portable wind velocity and measuring equipment. Having and using such instruments would add to your evidence in case an issue were made over this question.



## LIABILITY

Air-applicators should recognize their position relative to liability. As pointed out later, *reasonable* caution is required of air-applicators. In addition, however, there are certain well defined precautions such as the curtailing of spray and dust operations when winds or thermals present the hazard of drift.

### *Is Extraordinary Caution Required?*

According to Smith Troy, Attorney General for the State of Washington, speaking before the First Annual Dusting and Spraying Conference in Wenatchee, Washington, in 1949, the cases demonstrate that the law does not require extraordinary caution on the part of the crop duster. This does not mean that the air-applicator can in any manner be careless. He must use that degree of care commensurate with the airplane method of application.

For example, arsenic used by defendants for dusting a field of honeydew melons drifted a half mile over plaintiff's bee hives, killing all his bees. The dusting was done on a windy day and the court felt that the defendant should have foreseen that the dust could not be controlled, once released. The court said: "It must be conceded that in itself, dusting vegetables to kill pests that prey upon them is a *necessary and lawful* operation which the owner of the vegetables may perform, either himself or through his servants, or may have performed by an independent contractor. However, he *should not* do the dusting, or have it done, under conditions which would indicate to a reasonably prudent person that damage to his neighbor would result."

In a 1948 case, in the Arizona Supreme Court, a defendant cotton grower hired an aircraft operator to dust his cotton crop with insecticide. He failed to give any notice of the dusting to the owner of some bees located about 800 feet from a road separating the cotton land from the land of the bee owner. Although there was some question as to whether the bees' death was caused by the insecticide drifting or by the bees having come in contact with it while collecting pollen from the cotton crop, the bee owner recovered on the grounds that the appellant had given *no* notice of the dusting operation which would have permitted the bee owner to take steps to protect his bees from the harm of the dusting. The court said: "The dusting of growing crops by airplane to prevent the inroad of insects is frequently a *necessary* as well as perfectly legitimate operation, but it must be conducted at a time and manner so as not to endanger other legitimate industries such as agriculture."

The language of these cases indicates that courts recognize certain precautions to be absolutely necessary.

## *Damage Claims*

Damage claims are being made in many areas. There is a danger in every new industry for non-sympathizers to become claim conscious. Often these are imaginary but sometimes there is a basis for the claims. In the latter case where damage has occurred it is usually due to careless application or a lack of proper knowledge on the part of the applicator. Damage claims can best be settled out of court. At best it is difficult to prove one way or the other. What appears to be extensive damage early after an application may be much less significant when the crop is in. Some air-applicators get the grower to wait until the crop is matured. He may wind up fully satisfied.

In the event that a claim appears evident, obtain expert opinion of both a technical and a legal nature. Technical opinion and crop analysis often can be obtained from state college personnel competent to evaluate the crop condition. Expert commercial consultants are also now obtainable. They can be retained for a reasonable fee. Their assistance might be highly valuable in questionable cases. Legal advice must, of course, be obtained from an attorney — preferably one versed in air-application problems.

The practice of making a post examination to determine the results of a job is excellent practice and one which inspires the confidence of the grower. A crop can "go bad" for many reasons other than the manner of the spray treatment. These post examinations give the operator a chance to discuss such things with the grower. A few paid claims, however, serve to show that an operator stands behind his work and often helps to publicize the integrity of the air-applicator firm.

## *Unjustified Damage Claims*

An air-applicator must be aware of three possible damage claims. The first is the true damage claim in which it is evident that improper application was the cause of damage. The second is the case where a grower is sincere in his claim of damage but in which case the damage was caused not from the chemical application but from some other cause. The third type of claim is that in which the grower becomes claim conscious and attempts to collect in the hope that the applicator cannot disprove his claim.

Most of such claims can be disproved but it takes the services of a professional agronomist often to perform the laboratory and practical tests at the right time to prove the real cause of damage.

## *Joint Liability*

Who is responsible for damage that may result to persons, animals or vegetation as result of chemicals being sprayed or dusted on a neighbor's property, the grower or the air-applicating firm? Generally



speaking, such responsibility lies with the persons causing the chemical to be so applied. Usually this includes both the grower and the applicator for both have to do with causing the chemicals to be applied. In an opinion, the Attorney General of Minnesota is said to have held that both the grower and the air-applicator are jointly and severally liable where the operator fails to use care.

Louisiana is an example of a state which provides in its regulations that liability shall be borne jointly by the owner of the property being sprayed and the custom air-applicator unless otherwise stipulated by written contract. Mississippi laws provide that if the air-applicator is operating under the instructions of the grower he is treated as an employe and does not need a license. But if the air-applicator is operating as a "pest control service" he must be licensed.

When a cause of action arises over damage the question of whether the damage should be borne by the grower or the applicator must be decided. Is the applicator a servant of the grower? Or is the applicator an independent contractor? In the state of Louisiana the state law specifies that the liability for injury shall be borne by the grower or in case of custom spraying, jointly by the grower and the company or individual doing the custom spraying, unless otherwise stipulated by contract. Cases which have reached the appeal court level have usually been those attempting to determine if the applying firm alone was liable.

The question of whether the applying firm is *solely* liable for damage or whether the grower is *solely* responsible has often arisen. Ordinarily the *general rule* holds that the employer is *not* liable for the negligence of an independent contractor. There is an exception, however, in the case involving the use of an inherently dangerous machine, method or material. In such case the responsibility cannot be delegated and the performer is said to be regarded in the law as a servant of the employer. 196

There is a case on record in which several heads of livestock belonging to the plaintiff died of arsenic poisoning when a compound sprayed by plane over the cotton fields of defendant invaded the plaintiff's pastures. The appellants claimed the dusting company was an independent contractor and solely liable, but the court held that in matters inherently dangerous the employer cannot delegate responsibility for lack of care. 196

## *Judge vs. Jury Trial*

Should you become involved in a suit it should be remembered that you can't argue fine technical points before a lay jury that knows little about the technicalities of spraying and dusting. Juries are easily influenced by clever lawyers. As a rule a "judge" trial will better serve your interests. Judges are aware of technicalities in industry and will consider only the facts.

## TYPES OF REGULATIONS

Rules controlling air-applicators appear at all governmental levels, federal, state, county and city. Most of the regulations are at the state level. *Self regulation* is growing in some states. A strong code of *ethics* imposed now upon itself by the air-applicating industry would be timely. The trend is in this direction but like all pioneering industries, standards develop slowly. In the meantime restrictive legislation gets into the law books and once in its usually there to stay.

### What is Regulated?

A study of the present state and federal regulations and the proposed uniform state law shows that there are six basic areas that are regulated.

- ★ FIRST, the *airplane* must meet the specifications as to airworthiness and equipment.
- ★ SECOND, some *chemicals* are of such nature that they must be prohibited in certain areas where they are hazardous to susceptible vegetation or animal life.
- ★ THIRD, the custom *operators* need to be licensed and qualified.
- ★ FOURTH, the *pilots* who do the actual applicating need to be qualified and licensed.
- ★ FIFTH, certain geographical *areas*, due to wild life or vegetation, need to be protected from application of hazardous chemicals.
- ★ SIXTH, *weather conditions* figure extensively in use of some chemicals, therefore rules must control application under certain weather conditions.

### Who Regulates?

Regulations affecting air-applicators are mostly at the state level.

At the national level the *United States Department of Agriculture* does much to promote air-application. (See Volume Six for description of the work of the United States Department of Agriculture). The only United States Department of Agriculture regulation affecting air-application, and it is only indirectly, is the "Economic Poisons Act of 1947".



## TYPES OF REGULATION

The *Federal Security Agency*, through the pure food and drug rulings, sets limits on spray residues and tolerances.

The *Federal Public Health Service* is also concerned with the health aspects of the use of many chemicals also in the matters of mosquito and fly elimination.

The *Federal Aviation Administration* places significant controls over the air applicator. Its regulations are mostly confined to the airplane structure and maintenance and the pilot's license.

● **STATE LEVEL:** The state department of agriculture sets up regulations embracing such things as the examining and licensing of applicators, bonding, reporting, applying rules, residue limits, kinds and amounts of chemicals and restricted areas. Departments of aeronautics in some states are the major controlling body. More frequently though, the department of aeronautics concerns itself with the regulating only of the airplane and pilot. In some states where there is a department of chemistry that body regulates the use of chemicals and therefore is concerned with the air-application of chemicals. In some states the control lies with the fish and wild life commission. In at least one state the motor vehicle department is the only one with which air-applicators must deal and then only to register the airplanes. See Part V of this Volume for an analysis of the laws of the individual states.

● **LOCAL LEVEL:** At the local level city councils are concerned with such matters as fly and mosquito control. Also local public health offices are concerned with the health hazards of poisonous chemicals. Controls are also vested in county sheriffs and highway patrolmen in matters of enforcement of state and county regulations. In some states such as California the county commissioners of agriculture are directly responsible for authorizing the air-application of such chemicals as 2,4-D and permits must be obtained from them for certain types of application.

## WARNING . . .

Before operating in any state, air-applicators should clear through at least the State Department of Agriculture and the department or Commission of Aeronautics. The Director of Aeronautics for the state will be able to advise fully regarding all state regulations. For those states having no state department or commission of aeronautics, consult the secretary of state for information on regulations.

## INDUSTRY SELF POLICING

Like every industry, unless adequate *self policing* is done to set adequate standards for performance, legislation is likely to be imposed.

This is done of necessity in the interest of public welfare. The custom air-applicators of most states are organized and are endeavoring to set the standards for the industry. Typical of this trend is the effort of the air-applicators in Ohio. The applicators of Ohio state have adopted the following code of ethics which illustrates well an attempt to self-police.

### **A CODE OF ETHICS FOR AIR-APPLICATORS**

(Courtesy Ohio Flying Farmers)

The observance of the following Code of Ethics will qualify applicators for the endorsement and support of the Ohio Flying Farmers:

1. Aerial pilots shall be certified by the School of Aviation of Ohio State University provided a set of standards for aerial applicators is developed.
2. Applicators shall submit satisfactory evidence of financial responsibility if requested to do so.
3. Applicators shall thoroughly analyze the requirements of those for whom he performs such operations and conscientiously recommend the operations best suited to the customer's need. Recommendation shall be based on approved practices as outlined by the Ohio Agricultural Experiment Station and the Ohio Agricultural Extension Service.
4. Applicators shall apply hazardous chemicals only when there can be no danger of their drifting, causing questionable damage.
5. Applicators shall furnish only standard and approved materials.
6. In the event a dispute arises, applicators agree to an investigation by a special committee or body of the Ohio Flying Farmers.
7. Applicators shall maintain all equipment in the best possible condition to do a good job and eliminate delays.
8. Applicators shall keep abreast of the latest scientific and research development in the field of agricultural chemicals, and disease and insect control.
9. Applicators shall, if requested by the Agricultural Co-ordinator of the Ohio Aviation Board, agree to keep records of each job on forms furnished by the coordinator.



## TYPES OF REGULATION

10. Agree to surrender their membership in the Ohio Flying Farmers Association along with all the rights and privileges of such membership, if requested by the investigating body.
11. In general, applicators shall do only those things which good business ethics sanction and permit. 301

A further attempt on the part of Ohio Air-Applicators to improve their industry standards and thus avoid unnecessary regulations is illustrated by resolutions passed at their 1950 annual meeting.

## OHIO FLYING FARMERS RESOLUTIONS

(Adopted at Annual Meeting, July 1950)

1. Resolved that the Ohio Flying Farmers go on record suggesting that the Ohio State University School of Aviation set up a minimum set of standards for aerial applicator pilots to conform to and issue certificates to that effect.
2. Resolved that the College of Agricultural Engineering of Ohio State University set up a minimum standard of performance and behavior characteristics for aerial applicator equipment and issue certification vouchers for same.
3. Resolved that all aerial applicators have their applicator equipment calibrated and flight checked by the University School of Aviation and the College of Agricultural Engineering at Ohio State University.
4. Resolved that individual letters of thanks go to the College of Agriculture, Ohio Agricultural Experiment Station, Soil Conservation Service, Ohio Aviation Board, Ohio State University School of Aviation and to all contributors of materials and services for the support given the Agricultural Aviation phase of our Flying Farmer program.
5. Resolved that the University School of Aviation and College of Agriculture set up a course of instruction for aerial applicators. 302

## Out of State Competition

The earmarks of *competition suppression* appear in some state regulations. This is evidenced by those states requiring a 30 day lapse between application and license, and excluding out of state operators from obtaining workman's compensation. This is unfortunate as well as un-american. There is little to gain by trying to suppress out of state com-

petition. The answer is to make service *so good* that the grower will want to pay more to have the local applicator do his work.

Even if out of state custom air-applicators could be eliminated effort spent in fighting competition should be spent advertising the virtues of air application. In other words, there is ample business which will be available as soon as the growers are educated to the value of air-application.

### CONSULT YOUR LOCAL STATE COLLEGE AGRICULTURAL AUTHORITIES

### COURTS HAVE RULED THAT:

"The dusting and spraying of crops to prevent the inroad of insects and weeds is frequently a *necessary* as well as *perfectly legitimate* operation—but it must be conducted at a time and in a manner so as not to endanger other legitimate industries such as agriculture."



## PART THREE

### Federal Food and Drug Regulations

The "Federal Food and Drug Act" is administered by the *Federal Security Agency*. It provides for control of residue tolerances on fruits and vegetables. Tolerances have been set up for many of the unknown chemicals used in agriculture. New chemicals with which there is little or no back log of experience pose a problem. The Food and Drug Division held extensive hearings during 1950 the purpose of which was to review and set up new tolerances for fruits and vegetables involving many of the new chemicals.

Many chemicals can be used in the *early pre-fruiting* stages of the plant or tree but are not advisable or permissible as late *pre-harvest* treatments. If there is doubt, consult your county agent or agriculture experiment station for accurate advice. See Volume Two for full discussion of spray residues.

### Removal of Flourine Residue

The Federal Food and Drug Administration 43 in its discussion of flourine residues says this about spray residue removal: "The amount of flourine in spray residue remaining on apples and pears at time of harvest increases with the number of flourine cryolite sprays used, the decreasing length of time elapsing between the last of such sprays and harvest, and the use of substances which cause greater adherence of the spray to the fruit. The proportion of flourine remaining on apples ranges from a few milligrams per kilogram to over 50 milligrams per kilogram. (One milligram per kilogram is approximately equivalent to .007 grain per pound). It is possible, therefore, for one fruit to bear more than 7 milligrams of flourine.

The spray residue remains on the surface of the fruit and most of it can be removed by washing processes in common use in the industry. One process uses only one washing and rinsing operation. In such process diluted hydrochloric acid is used as the washing solution. This process is efficient in removing spray residues from apples and pears grown under light spray schedules. In another process two washings and rinsing operations are used. In this process the fruit is first washed in a sodium silicate or soda ash solution and then in a dilute hydrochloric acid solution. This process is efficient in removing spray residues from such fruits grown under a heavy spray schedule or when oils and stickers are added to the spray material, or when the spraying is continued late into the growing season.

In both washing processes the spray residue is removed more effectively when the washing solutions are heated. The heating of the solu-

tions tends to cause injury to the fruit which increases as the heat is increased. When the solutions are not heated to over 100° Fahrenheit, the amount of injury to the fruit is not material. The washing processes for apple are at least equally effective for pears. Efficient washing usually removes spray residue to such extent that the fluorine remaining on apples and pears is about 5 milligrams or less per kilogram without risk of excessive injury to the fruit. It can be reduced in practically all lots to 7 milligrams per kilogram without such risk."

## *Arsenate Tolerance on Apples and Pears*

Spray residue tolerance for apples and pears shipped within the jurisdiction of the Federal Food, Drug and Cosmetic Act are set at 0.05 grain of lead per pound and 0.025 grain arsenic (as arsenic trioxide) per pound.

These new tolerances revise the order of the Secretary of Agriculture of September 19, 1938, based upon a progress report of the Public Health Service submitted at that time, placing the limit for lead at 0.025 grain per pound. The new tolerances are based on the results of a three year study made by the United States Public Health Service at the direction of the Congress and reflect the scientific character of the conclusions reached by that service.

## *Restrictions on Use of DDT*

Under provisions of the law DDT should not be employed on food crops or in the storage, handling, or manufacture of food unless it is required. In determining whether or not DDT is required there should be taken into account the availability of insecticides that are less toxic than DDT. There is a grave question concerning the propriety of the use of DDT on such crops as leafy vegetables since safer insecticides such as the pyrethrins and rotenone are available.

No question is raised concerning the use of DDT on such fruits as apples and pears since it is less toxic than the other commonly used insecticides for these crops, such as lead arsenate and cryolite. In any event, the quantity of DDT used should be held to the minimum reasonably necessary for protection. For the present the Food and Drug Administration will not take action against apples and pears containing not more than 7 milligrams of DDT per kilogram of fruit. 42

## *DDT Banned from Dairy Barns*

The Food and Drug Administration found that DDT residue was a problem in dairy barns where milk is handled. Methoxychlor and lindane are two new insecticides recommended for use against flies in dairy barns.



## Registration of Economic Poisons

The Federal Insecticide, Fungicide, and Rodenticide Act of 1947 requires this desirable labeling on each package of economic poison. It also requires that all economic poisons offered in interstate commerce must be registered with the United States Department of Agriculture. The ingredient statement must appear on the part of the label generally displayed to the public. The well-known, common name or correct chemical name of the ingredient must be given and trade-mark or trade names are not to be used.

The ingredients may be shown as (a) the name and percentage of each active ingredient and the total percentage of the inert ingredients, or (b) the names of each active ingredient in the descending order of the amount of each present, and the names of each of the inert ingredients in the descending order of the amounts of each, and the total percentage of the inert ingredients. Needless to say, the first form of statement is better from the purchaser's point of view.

A preparation containing nicotine 5 per cent, soap (actual dry basis) 20 per cent, pine oil 10 per cent, alcohol 15 per cent, and water 50 per cent might be labeled as:

### ACTIVE INGREDIENTS

Soap	20.0%
Pine oil	10.0%
Nicotine	5.0%
INERT INGREDIENTS	65.0%
	<hr/> 100.0%

The alternate form of ingredient statement may be given as:

ACTIVE INGREDIENTS, Soap, Pine Oil, Nicotine, Water, Alcohol,

INERT INGREDIENTS 65.0%.

If the economic poison is highly toxic to man, the first form of the ingredient statement must be used. If an economic poison contains arsenic, it must state the percentages of total and water soluble arsenic, each calculated as elemental arsenic.

Misbranding of economic poisons occurs when information on the label or labeling is false, deceptive or misleading; if the ingredient statement is not in proper form; or if the net weight or contents are

not given; if the product is an imitation or sold under the name of another economic poison; if the label does not contain directions for use that are adequate or bear caution, warning or antidote statements that are necessary to prevent injury to man, animals and useful plants.

Laws governing the handling of insecticides differ somewhat in different states, however, an effort is being made to have the states adopt a uniform economic poison law with standard registration for all such products. If the information mentioned above is correctly given, it will usually be sufficient. Some states and some public health laws require the skull and cross bones on packages containing poisons. Most states now require that brands of economic poisons (pesticides) offered for sale be registered, and some require the payment of a registration fee.

The direction for use on the label, or any printed material on the package or circular accompanying the package, must be accurate. In the enforcement of the Federal Insecticide, Fungicide and Rodenticide Act, the Insecticide Division of Livestock Branch Production and Marketing Administration, United States Department of Agriculture, requires that an insecticide or fungicide must do what is claimed for it when used as directed.

The directions on the label attached to the container, or in the circular that accompanies the products when offered for sale should contain directions that include the recommended dilution for different insects and diseases, the rate of application, time to apply and frequency of use and method of application, precautions in its use and any other pertinent information of value to the user. 100 See Volume three for discussion of label and label interpretation.

## FAA REGULATIONS

The Federal Aviation Administration and the Civil Aeronautics Board are the two federal aeronautical agencies which place controls on air-applicators. These two agencies act as one for the Civil Aeronautics Board makes the regulations and the Federal Aviation Administration enforces them. It is the policy of these bodies to educate rather than legislate. An understanding of Federal Air Regulations which apply to air-application is highly essential for pilots, mechanics, and air-applicating companies. Any airplane regardless as to its use is subject to Federal Air Regulations. These regulations have to do with flight rules, air traffic, and maintenance of the aircraft.

For special flying activities such as spraying, dusting, seeding and fertilizing, certain of the regulations will be waived upon proper application. Maintenance requirements and the provisions for modification of an airplane are fully covered in the F.A.A. Air Regulations. Even



in the changes of design and structure, waivers and authorizations can be obtained as long as basic safety standards are met. The F.A.A. regulations are designed to insure that aircraft used in agriculture shall be airworthy and suitable for the type of work to be done and that the installation of the dispersal equipment *shall not weaken* the structure of the aircraft or *disturb its balance* to a point where it becomes an unsafe airplane.

## Modification of Aircraft

Prior to 1951 agricultural aircraft were in the same category with charter planes and training planes. This placed an undue burden upon the air-applicator who did not use his airplane for public passenger carrying. The Federal Aviation Administration and the Civil Aeronautics Board recognized this valid complaint and created a new section of Federal Air Regulations known as Part 8. See Fig. 2, page 00 quoting from the preamble to Part 8. "We have been advised that the existing requirements, which were designed primarily to establish an appropriate level of safety for passenger-carrying aircraft, have imposed unnecessary economic burden and are unduly restrictive for the manufacture and operation of aircraft intended for use in rural, sparsely settled areas outside the usual lanes of air transportation and in which no passengers are to be carried for hire. For such restricted operations where public safety is not endangered it appears unreasonable to require the same level of safety as that required for passenger-carrying aircraft. Therefore, a basic change in Part 8 from current practice has been the elimination of the "equivalent level of safety" provision from the requirements for restricted category aircraft."

This part is intended to provide the greatest possible flexibility of administration and to place the minimum burden consistent with public safety on the applicant for a certificate in the restricted category. While it is anticipated that it will be necessary to supplement this part with administrative policies and manual material, it is intended that such material be directly related to existing airworthiness standards and not take the form of independent administrative rules to be applied in lieu of the basic regulations. 300

Information furnished by F.A.A. indicates that if modification is made in accordance with "Manual 8" no drawings or other evidence is required other than a statement to that effect on F.A.A. form 337. See Fig. 4-C, page 26.

● PART 8, F.A.R.: Part 8 covers the requirements for *restricted use* aircraft. In general, this new regulation allows the air-applicator to rig up an airplane or build an airplane and equip it as needed to do the desired job. It need not go through all of the strict engineering requirements heretofore required for certification. The air-applicator

needs only to convince the local F.A.A. safety agent that the airplane is safe to operate. Such airplane will be certificated as a *restricted airplane*, permitting its use as a special purpose airplane. It will carry limitations on its airworthiness operations record prohibiting its use in restricted areas and the carrying of persons other than the crew. The provisions are fully explained Federal Aeronautics Manual shown in Fig. 3, page 24.

● **HOW TO OBTAIN F.A.R. 8 and MANUAL 8:** These documents may be obtained from the Superintendent of Documents, Government Printing Office, in Washington, or they may be ordered directly from the Air-Applicator Institute at the government printing office price plus an additional 20 cents for wrapping and postage.

## General Flight Regulations

All pilots must comply with the general flight regulations. Special attention is called to F.A.R., Part 60.12 which covers careless and reckless flying and states that the aircraft will always be flown in such a manner as not to endanger life or property. This means that if you damage a man's crop you are also subject to FAA violation. Although this regulation has probably not yet been applied to agricultural damage it could be in the future.

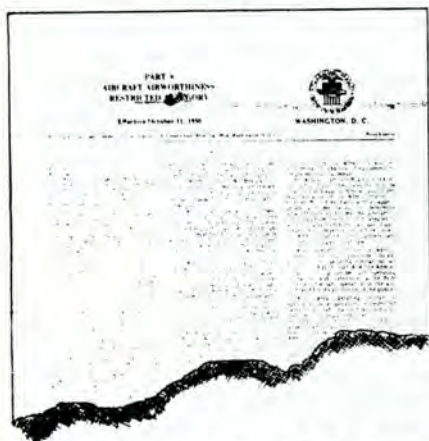


Fig. 2. Facsimile of FAR Part 8.

ing the spray season. For full information refer Federal Aeronautics Manual Eight, shown in Figure 3, page 24. Paragraph 8.21-1.

● **GROSS LOADS:** One desirable advantage of the new F.A.R. 8 is the elimination of the *present* gross load restrictions. Under Part 8 the air-applicator will set his own gross weight limit and demonstrate by actual flight that it is within reasonable safe limits. If approved by the F.A.A. he can then operate up to that limit. Refer to F.A.M. 8.10 -3 for full particulars.



## FEDERAL REGULATIONS

● **F.A.M. 8 (MANUAL TO ACCOMPANY F.A.R., PART 8):** The Federal Aeronautics Manual Fig. 3, which accompanies the F.A.R. 8 is available through the Air-Applicator Institute at the Government Printing Office price of 60c. This Manual is extremely valuable to all mechanics. F.A.M. 8 should be consulted before deciding changes in installation or structural design. See Volume Six which outlines the information available in F.A.M. 8. Consult the F.A.A. District Aircraft Safety Agent for the name of the nearest designated aircraft inspector who is authorized to certificate restricted category aircraft. Not all F.A.A. designated aircraft inspectors are authorized to approve restricted category work.

## *Maintenance of Aircraft*

Aircraft used in commercial operations must be given regular 100 hour inspections. Agricultural aircraft, like all other aircraft, must be issued annual airworthiness certificates at which time a 100 hour inspection must be completed. The reissuing of airworthiness certificates can be done by any F.A.A. District Office Agent or a F.A.A. designated aircraft maintenance inspector. See Volume Six for location of F.A.A. District Offices. Fig. 4-a, page 26 shows a facsimile of the periodic aircraft inspection report. F.A.A. form 319. Fig. 4-b, page 26 shows a facimile of the application for airworthiness certificate F.A.A. form 305.

● **EQUIPMENT MAINTENANCE:** F.A.A. maintenance requirements are largely aimed at the airworthiness of the aircraft. Equally important, however, is the maintenance of the dispersal equipment. Leaky tanks, booms, and nozzles may place an operator liable to crop damage. Often chemicals are unintentionally dropped while ferrying or making turn-arounds over adjoining fields. Leaky equipment also may be extremely hazardous to pilots.

## *Pilot Privileges and Restrictions*

The F.A.A. requires all pilots who fly for hire to hold commercial licenses. Agricultural pilots must observe Federal Air Regulations. (Usually waivers waive only the 500 foot rule over the area being treated and the navigation light requirement). F.A.A. Parts 20, 43 and 60 list the federal flight regulations with which all commercial pilots must comply. See Fig. 5.

● **TREATING OWN CROP:** Many growers today own their own airplanes and install conversion spray or dusting units and treat their own crops. The F.A.A. authorizes such piloting if the pilot holds a private license. This is not considered flying for hire in that the flying

is done only incidental to the grower's main business of running a farm, F.A.R. Amendment 43.60. A private pilot owning his own airplane equipment and farm may also treat a neighbor's field providing he does *not* do it for compensation. A student pilot, obviously could not have such privilege for his license specifically restricts him from flying in the furtherance of a business. Also he is limited to certain assigned practice areas.

## FAA Waiver

Dusting, spraying, seeding and fertilizing necessitates *low flying* over people and property. Present federal regulations require that airplanes *not* be flown closer than 500 feet from persons or vehicles. This regulation is waived and low flight is permitted over the field treated.

Dusting and spraying is also done during the early morning dawn and late evening twilight in order to take advantage of quiet air and dew conditions. The position light requirement, therefore, is also waived. The reason for not requiring position lights is that electrical systems are hazardous.

Aircraft certificated under the new FAA *Restricted category* (Part 8) are restricted to the immediate area of their operation. In order to fly these airplanes from busy airports, congested airspaces, airline terminals or heavily populated areas, a waiver is required. (See Figure 6 a, b, Page 38, for FAA waiver and application forms.)

Some states require waivers for low flight in addition to the FAA waiver (See elsewhere under state regulations.) Agricultural waivers are usually issued for the season or a year. They can be issued for a specific area or can be nationwide.

A FAA waiver does *not* waive the regulation for flying to and from the areas of actual operation nor does it authorize low flight over property adjoining the field being treated. Permission from the owners, therefore, must be obtained before flying low over the property of others.

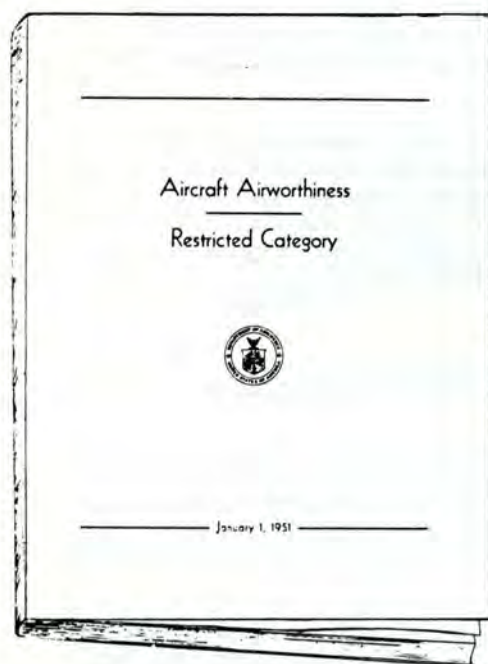


Fig. 3.

FAA Manual 8.



## STATE LAWS 1966

Although there is need for localized special regulations, there are many elements in the air-applicating industry which are common to all states and might well be uniform. The material in the following paragraphs gives a brief resume of the regulations now in force and an analysis of the various items now being regulated. The survey upon which this analysis was made is as nearly as could be determined accurate for the year 1965. Many legislatures met in 1965 and some new regulations have probably been enacted.

As will be seen, there is at present little uniformity in the laws of the various states. It must be kept in mind that some states, because of the inherent crop, weather, terrain and other local conditions, need to pass certain regulations for which there would be little need in other states. For example, California is a state of highly diversified crops, whereas Montana is largely a small grain producing state. Part Five of this volume describes the model state law which has been suggested to the various states in the interest of promoting as much uniformity as is practical.

Many states require that all economic poisons be registered within the state. States that require such regulation usually have available lists of products by their trade names and give the chemical contents of each material, also the percentage of acid equivalent and pounds of acid per gallon.

For example, in California, a herbicide must be registered with the Department of Agriculture, Bureau of Chemistry, before it may be offered for sale. If available information indicates that the proposed material is of value for the purpose intended and that the proposed labeling conforms to requirements of law, registration can be issued. If nothing is known of the proposed product the applicant may be required either to submit the required information or to arrange and conduct a practical demonstration. Registration may be refused after hearing if the product is of little or no value for the purpose intended or if it is detrimental to public health and safety when used as directed.

**MANY STATES ARE REVISING OR PASSING NEW REGULATIONS. CLEAR THRU THE STATE AERONAUTICS COMMISSION AND STATE DEPARTMENTS OF AGRICULTURE FOR THE LATEST INFORMATION.**

ALABAMA - THE STATE DEPARTMENT OF AERONAUTICS HAS NO SPECIAL STATUTES, EXCEPT WHEN SPRAYING PECANS. A WRITTEN EXAM ON CONTROL OF DISEASES AND INSECTS OF PECANS IS REQUIRED.

ALASKA - THE STATE OF ALASKA HAS NO REGULATIONS CURRENTLY CONCERNING THE APPLICATION OF PESTICIDES OR REGULATIONS CONCERNING APPLICATIONS BY AIR.

ARIZONA - APPLICATORS MUST COMPLY WITH ARS TITLE 3 - ARTICLE 6, SECT. 3-371 - 3-386 "ARIZONA APPLICATORS ACT." THE LICENSE FEE IS \$25.00 PER YEAR FOR EACH AIRCRAFT. APPLICANT MUST SATISFY THE BOARD OF PEST CONTROL APPLICATORS OF HIS CHARACTER, QUALIFICATIONS, RESPONSIBILITY AND GOOD FAITH IN SEEKING TO CARRY ON THE BUSINESS OF CUSTOM APPLICATION. A \$500.00 PENALTY IS ADDED TO LICENSE FEES WHICH ARE NOT PAID WHEN DUE.

PROOF OF FINANCIAL RESPONSIBILITY IN THE AMOUNT OF \$25,000.00 FOR PROPERTY DAMAGE, PUBLIC LIABILITY, AND DRIFT INSURANCE, EACH SEPARATELY, MUST BE POSTED PRIOR TO LICENSING, BOND OR CASH. IN CASE OF BONDING COMPANY, SAID COMPANY MUST BE AUTHORIZED TO DO BUSINESS IN ARIZONA. BOND MUST BE IN FORCE ALL DURING LICENSED PERIOD. IN THE EVENT THE BOND FALLS SHORT OF THE REQUIRED AMOUNT IN ANY OF THE THREE AREAS OF COVERAGE THE LICENSE WILL BE SUSPENDED PENDING REINSTATEMENT OF THE BOND IN FULL.

APPLICANT MUST DEMONSTRATE A FAMILIARITY OF INSECTS AND PESTICIDES AND KNOWLEDGE CONCERNING APPLICATION OF PESTICIDES, THE DANGERS INVOLVED, PRECAUTIONS AND HAZARDS TO ADJACENT PROPERTY OWNERS AND OTHERS IN THE NEIGHBORHOOD.

FOLLOWING A JOB, APPLICATOR MUST FURNISH A RECORD TO THE BOARD OF THE NAME AND LOCATION OF THE CUSTOMER'S JOB, THE DAY, MONTH AND YEAR AND TIME OF DAY APPLICATION WAS MADE, THE SUPPLIER OF THE PESTICIDE, THE NAME OF THE PESTICIDE, AND THE DIRECTION AND VELOCITY OF WIND AT THE TIME OF APPLICATION.

#### EXEMPTIONS FROM LICENSING:

APPLICATORS ENGAGED IN ATMOSPHERIC CONDITION CHANGES.  
APPLICATIONS OF PESTICIDES TO FOREST AND RANGELANDS WHILE EMPLOYED BY STATE OR FEDERAL GOVERNMENT.  
APPLICATION OF WEED CONTROL ALONG RAILROAD OR HIGHWAY RIGHTS OF WAY.  
OPERATORS OF AIRPLANES WORKING FOR REGULARLY LICENSED AND INSURED APPLICATOR ON A TEMPORARY BASIS DURING AN EMERGENCY PERIOD WHEN DEMAND IS ABNORMALLY GREAT.

PENALTY FOR EACH VIOLATION OF THIS ARTICLE IS A MISDEMEANOR. A FINE OF NOT MORE THAN \$300.00 OR IMPRISONMENT IN COUNTY JAIL NOT TO EXCEED 60 DAYS OR BOTH ARE IMPOSED. CONTACT BOARD OF PEST CONTROL APPLICATORS, PHOENIX, ARIZONA.



ARKANSAS - APPLICANTS MUST CONFORM TO ACT 428 "AGRICULTURAL APPLICATION SERVICE ACT AND REGULATIONS."

LICENSE APPLICATION MUST LIST NAME AND ADDRESS OF APPLICANT, DESCRIPTION AND NUMBER OF EACH AIRCRAFT AND ARTICLE OF GROUND EQUIPMENT TO BE USED. A FEE NOT TO EXCEED \$50.00 PLUS A FEE NOT TO EXCEED \$10.00 FOR EACH UNIT OF EQUIPMENT TO BE USED. PROOF OF FINANCIAL RESPONSIBILITY MINIMUM OF \$2,500.00, MAXIMUM OF \$10,000.00 TO BE IN EFFECT DURING THE LIFE OF THE LICENSE. IN EVENT OF AN INSURANCE OR BONDING COMPANY, SAID COMPANY MUST BE AUTHORIZED TO DO BUSINESS IN ARKANSAS.

VIOLATIONS ARE MISDEMEANORS AND CARRY A FINE OF NOT LESS THAN \$100.00 AND NOT MORE THAN \$1000.00 FOR ANY SECTION OF THE ACT.

EXEMPTIONS: APPLICATORS OF ECONOMIC POISONS OR FARMERS WHO ARE TRADING WORK WITH OTHER FARMERS OR STATE, COUNTY, CITY OR FEDERAL AGENCIES OR SUBDIVISIONS OF SAME.

CALIFORNIA - CALIFORNIA AGRICULTURAL CODE. SAME AS IN VOL. 5 OF THE AAA BOOKS.

COLORADO - APPLICATORS MUST COMPLY WITH CHAPTER 50, SESSION LAWS, 1961, AS AMENDED.

APPLICANTS FOR LICENSE MUST PASS A WRITTEN TEST ON APPLICATION OF CHEMICALS, AND SUBMIT A BOND IN THE AMOUNT OF \$2500.00.

EACH PIECE OF EQUIPMENT MUST BE LICENSED. FEE OF FIRST PIECE OF EQUIPMENT IS \$15.00, AND \$10.00 FOR EACH ADDITIONAL PIECE. LICENSE EXPIRES DECEMBER 31 EACH YEAR.

RECORDS OF APPLICATORS ARE OPEN FOR INSPECTION AS IS EQUIPMENT, BY STATE OFFICIALS. THE STATE FURNISHES REPORT FORMS WHICH MUST BE COMPLETED ON EVERY JOB AND MAILED TO STATE DEPARTMENT OF AGRICULTURE BY THE 10TH OF THE MONTH FOLLOWING COMPLETION OF THE PRIOR MONTH'S WORK. COLORADO DEPARTMENT OF AGRICULTURE DIVISION OF PLANT INDUSTRY, 1525 SHERMAN ST., DENVER 3, COLORADO.

CONNECTICUT - PUBLIC ACT No. 527 (1963). PERMITS ARE ISSUED BY THE COMMISSIONER OF AGRICULTURE AND NATURAL RESOURCES. APPLICANT MUST BE A QUALIFIED AIRCRAFT OPERATOR. THE STATE BOARD OF PESTICIDE CONTROL DESIGNATES THE KIND AND AMOUNT OF PESTICIDES FOR USE BY AIRCRAFT APPLICATORS. IN CONGESTED AREAS PERMITS ARE ISSUED ON THE APPROVAL OF THE DIRECTOR OF HEALTH OF THE MUNICIPALITY WHERE THE OPERATION IS TO BE DONE.

THE COMMISSIONER, WITH THE ADVICE OF THE DIRECTOR OF AERONAUTICS, MAY ADOPT SUCH REGULATIONS AS HE DEEMS NECESSARY FOR THE PROTECTION OF PUBLIC HEALTH.

AND PRIVATE AND PUBLIC PROPERTY AS WELL AS AQUATIC AND ANIMAL LIFE, GOVERNING THE TYPE OF AIRCRAFT, THE HOURS DURING WHICH AIRCRAFT MAY BE USED, WIND AND WEATHER CONDITIONS, WHEN APPLICATIONS MAY BE PERFORMED, THE MINIMUM AREA WHICH AN AIRPLANE CAN SPRAY OR DUST, AND THE AMOUNT OF PUBLIC LIABILITY AND PROPERTY DAMAGE TO BE CARRIED BY THE OPERATOR.

DELAWARE - NO STATE LAWS OR REGULATIONS GOVERNING AERIAL APPLICATORS. FOR CONFIRMATION CONTACT THE STATE BOARD OF AGRICULTURE, DOVER, DELAWARE.

FLORIDA - FLORIDA HAS NO LAWS FOR PESTICIDE APPLICATION.

GEORGIA - GEORGIA HAS NO STATE REGULATIONS GOVERNING AERIAL SPRAYING OR DUSTING.

HAWAII - THE APPLICATION OF PESTICIDES BY AIR IS REGULATED ONLY BY THE PUBLIC HEALTH AIR POLLUTION DEPARTMENT, AND A LICENSE OF PERMIT MUST FIRST BE ACQUIRED FROM THEM.

2-4D IS CONSIDERED EXTREMELY DANGEROUS TO FORMS OF PLANT LIFE, AND THEREFORE THE SALE OF 2-4D IS PROHIBITED UNLESS A PERSON HAS A LICENSE TO DO SO. AERIAL APPLICATION OF EXTREMELY HAZARDOUS FORMS OF 2-4D IS PROHIBITED, APPLICATION BY AIR, OF OTHER FORMS OF 2-4D SHALL BE WITH EQUIPMENT THAT IS LEAKPROOF, WITH NOZZLES EQUIPPED TO PREVENT DRIBBLES. NO APPLICATION BY AIR SHALL BE MADE OF 2-4D IN WINDS WITH A VELOCITY OF OVER 10 MPH, AN ANEMOMETER SHALL BE MAINTAINED NEAR THE FIELD BEING SPRAYED, AND AN ADEQUATE SIGNAL ARRANGEMENT SHALL BE MADE BEFORE HAND TO ASSURE COMPLIANCE WITH THE 10 MPH VELOCITY REGULATION.

IDAHO - COMMERCIAL APPLICATORS USING AERIAL EQUIPMENT MUST HAVE INSURANCE LIABILITY IN THE AMOUNT OF AT LEAST \$10,000.00 COVERING PROPERTY DAMAGE, AND IN THE AMOUNT OF AT LEAST \$10,000.00 COVERING BODILY INJURY CAUSED BY THE APPLYING AIRCRAFT OR BY MEMBERS OF THE APPLYING CREW INCLUDING CHEMICAL DRIFT DAMAGE ONTO PROPERTY OTHER THAN THE PROPERTY TO WHICH THE CHEMICAL IS BEING APPLIED.

FINANCIAL RESPONSIBILITY MAY ALSO BE PROVED BY USE OF A BOND APPROVED AS TO FORM BY THE COMMISSIONER OF AGRICULTURE, OR BY CASH DEPOSITED IN ESCROW WITH A BANK OR TRUST COMPANY.

THIS DOES NOT INCLUDE, NOR IS IT MEANT TO INCLUDE, ANY CHEMICAL DAMAGE OR INJURY TO THE IMMEDIATE PROPERTY BEING SPRAYED OR DUSTED.

NO PERSON SHALL ENGAGE IN THE ABOVE SOIL CUSTOM APPLICATION OF INSECTICIDES, FUNGICIDES, OR HERBICIDES WITHIN THE STATE OF IDAHO AT ANY TIME WITHOUT A



LICENSE ISSUED BY THE COMMISSIONER OF AGRICULTURE EXCEPT APPLIED BY A FARMER OR GROWER TO HIS OWN PROPERTY OR TO THE PROPERTY OF ANOTHER FARMER OR GROWER WHEN THE SAME IS DONE WITHOUT ANY CONSIDERATION OTHER THAN EXCHANGE OF LABOR AND EQUIPMENT.

APPLICATION FOR A LICENSE SHALL BE MADE TO THE COMMISSIONER OF AGRICULTURE AND SHALL BE ACCOMPANIED BY AN ANNUAL FEE NOT TO EXCEED \$10.00. EACH SUCH LICENSE SHALL EXPIRE ON DECEMBER 31, FOLLOWING THE DATE OF ISSUANCE.

THE COMMISSIONER CAN LIMIT THE LICENSEE TO THE USE OF ONLY CERTAIN TYPES OF MATERIALS OR TYPES OF EQUIPMENT IF HE FINDS THE APPLICANT IS QUALIFIED TO USE ONLY SUCH TYPES OF EQUIPMENT OR MATERIAL.

THE COMMISSIONER CAN SUSPEND, PENDING INQUIRY, FOR NOT LONGER THAN TEN DAYS, AND AFTER INQUIRY, MAY REVOKE OR MODIFY THE PROVISIONS OF ANY LICENSE ISSUED, IF HE FINDS THE LICENSEE NO LONGER QUALIFIED, HAS ENGAGED IN FRAUDULENT BUSINESS PRACTICE OR HAS MADE CUSTOM APPLICATION IN A FAULTY, CARELESS, OR NEGLIGENT MANNER OR HAS VIOLATED ANY PROVISIONS OR REGULATIONS.

AN APPLICATOR SHALL CONFORM TO THE FOLLOWING REGULATIONS:

A. KEEP REASONABLY WELL INFORMED AS TO THE PROPER CLIMATIC CONDITIONS AND SHALL NOT APPLY SPRAYS OR DUST WHEN THE WIND VELOCITY IS IN SUCH PROPORTION AS TO CAUSE A DRIFT OF ANY SPRAY OR DUST WHICH MAY CAUSE DAMAGE BEYOND THE PROPERTY OF THE PERSON OR PERSONS RECEIVING THE BENEFITS OF THE APPLICATION.

B. DESTROY BY BURNING ALL INSECTICIDE CARTONS, BAGS, OR CONTAINERS IMMEDIATELY AFTER EMPTYING THE CONTENTS.

C. THE COMMISSIONER SHALL REQUIRE THE ABOVE MENTIONED BOND OR INSURANCE POLICY FROM EACH APPLICANT.

THE COMMISSIONER MAY PROVIDE FOR INSPECTION OF EQUIPMENT, AND MAY REQUIRE PROPER REPAIRS OR OTHER CHANGES BEFORE THE EQUIPMENT CAN BE USED FURTHER FOR CUSTOM APPLICATION.

THE COMMISSIONER MAY, BY REGULATION, AFTER PUBLIC HEARING, PRESCRIBE MATERIALS TO BE USED, OR PROHIBIT THE USE OF CERTAIN MATERIALS OR METHODS OF APPLICATION, TO THE EXTENT NECESSARY TO PRESERVE THE HEALTH OR PROPERTY OF LAND OWNED BY OTHERS THAN THOSE RECEIVING BENEFITS OF THE APPLICATION, DUE TO DRIFTING, WASHING OR APPLICATION. IN ISSUING SUCH REGULATION THE COMMISSIONER SHALL GIVE CONSIDERATION TO THE AGRICULTURE EXPERIMENT STATION OF THE UNIVERSITY OF IDAHO'S FINDINGS AND RECOMMENDATIONS, RELATIVE TO ALL MATTERS TECHNICAL IN MATERIALS AND METHODS.

THE COMMISSIONER MAY REQUIRE APPLICATORS TO MAINTAIN RECORDS AND FURNISH SUCH REPORTS GIVING INFORMATION WITH RESPECT TO THE PARTICULAR APPLICATION AND MATERIALS AND SUCH OTHER INFORMATION AS THE COMMISSIONER DEEMS NECESSARY.

THE COMMISSIONER MAY MAKE REGULATIONS, AFTER PUBLIC HEARING, FOR CARRYING OUT THE PROVISIONS OF THE AGRICULTURE ACT, AS LONG AS THEY ARE CONSISTENT WITH THE REGULATION OF THE FEDERAL GOVERNMENT.

THE COMMISSIONER MAY PUBLISH INFORMATION REGARDING THE INJURIES WHICH MAY RESULT FROM IMPROPER APPLICATION OR HANDLING OF MATERIALS AND METHODS AND PRECAUTIONS DESIGNED TO PREVENT SUCH INJURY AND SETTING FORTH RECOMMENDED METHODS AND MATERIALS TO BE USED.

ANY PERSON VIOLATING THE PROVISION OF THIS ACT OR THE REGULATIONS SHALL BE GUILTY OF A MISDEMEANOR AND, UPON CONVICTION, SHALL BE FINED NO MORE THAN \$100.00 FOR THE FIRST OFFENSE AND NOT MORE THAN \$300.00 FOR EACH SUBSEQUENT OFFENSE.

THIS ACT SHALL NOT APPLY TO CUSTOM APPLICATION FOR THE PURPOSE OF INSECT CONTROL OF HOUSES, BUILDINGS OR SHIPS OR VESSELS OR WITHIN VEHICLES, SHIPS OR AIRCRAFT OR OTHER MEANS OF TRANSPORTING PEOPLE.

FOR THE PURPOSE OF CARRYING OUT THE PROVISIONS OF THE AGRICULTURE ACT, THE COMMISSIONER MAY ENTER UPON ANY PUBLIC OR PRIVATE PREMISES AT REASONABLE TIMES IN ORDER TO HAVE ACCESS FOR THE PURPOSE OF INSPECTING ANY AIRCRAFT OR EQUIPMENT SUBJECT TO THIS ACT.

NO INSECTICIDE, FUNGICIDE OR HERBICIDE AS DEFINED IN THIS ACT, REQUIRED TO BE APPLIED TO ANY AGRICULTURAL CROP AT A STAGE WHEN BEES AND OTHER POLLINATING INSECTS ARE AT WORK ON SAID CROP, SHALL BE SPRAYED OR DUSTED EXCEPT DURING THE THREE HOURS AFTER SUNRISE AND THE THREE HOURS BEFORE SUNSET.

KEEP RECORDS OF EACH PROPERTY TREATED, AND HOLD SUCH RECORDS IN THE APPLICATORS FILES FOR TWO YEARS, READY TO BE SUBMITTED TO THE STATE DEPARTMENT OF AGRICULTURE AT ANY TIME THE DEPARTMENT SO REQUESTS. SUCH RECORDS SHALL INCLUDE THE NAME AND ADDRESS OF THE OWNER OF EACH PROPERTY TREATED, THE CROP TREATED, AND THE PEST OR PESTS INVOLVED, THE TYPE AND STRENGTH OF MATERIAL USED, THE DATE AND DAY OF APPLICATION, AND THE DIRECTION AND APPROXIMATE VELOCITY OF THE WIND DURING TIME OF APPLICATION.

AFTER PUBLIC HEARING, THE COMMISSIONER MAY DESIGNATE RESTRICTED AREAS AS TO THE USE OF 2-4D OR OTHER MATERIALS AS THE COMMISSIONER DESIGNATES. THESE PUBLIC HEARINGS CAN BE INSTIGATED BY A NUMBER OF PROPERTY OWNERS WHO HAVE SIGNED PETITIONS REQUESTING SUCH HEARING. THE FINDINGS OF THE COMMISSIONER SHALL BE PUBLISHED AS SOON AS PRACTICABLE AFTER SUCH HEARINGS. THE RESTRICTIONS ALSO CAN DEFINE THE TIMES AND TYPES OF MATERIAL APPLICATIONS IN RESTRICTED AREAS, AS DEFINED BY THE COMMISSIONER. ANY PERSON VIOLATING RESTRICTED AREAS SHALL BE GUILTY OF A MISDEMEANOR AND IF FOUND GUILTY SHALL BE FINED NOT LESS THAN \$25.00 NOR MORE THAN \$500.00.



**LICENSING:**

EACH APPLICANT FOR A COMMERCIAL SPRAYER AND-OR DUSTERS LICENSE SHALL BE REQUIRED TO TAKE AND SATISFACTORILY PASS A WRITTEN EXAMINATION ON THE USE AND METHODS OF APPLYING PESTICIDES.

EACH COMMERCIAL SPRAYING OR DUSTING RIG SHALL BE OPERATED BY A MAN WHO HAS BEEN ISSUED AN APPLICATORS PERMIT BY THE DEPARTMENT OF AGRICULTURE.

APPLICANTS FOR A COMMERCIAL SPRAYERS AND-OR DUSTERS LICENSE SHALL MAKE A SCORE OF AT LEAST 85 PER CENT ON THE EXAMINATION TO BE ELIGIBLE FOR A SPRAYER OR DUSTERS LICENSE.

APPLICATORS IN CHARGE OF SPRAY AND DUSTER RIGS SHALL MAKE A SCORE OF AT LEAST 70 PER CENT ON THE EXAMINATION TO BE ELIGIBLE FOR AN APPLICATOR'S PERMIT.

ONLY ONE APPLICATORS PERMIT IS NECESSARY PER PESTICIDE RIG.

EACH FIELD OR AIR UNIT OF EQUIPMENT SHALL DISPLAY IN A CONSPICUOUS POSITION AN IDENTIFICATION TAG ISSUED BY THE AGRICULTURE DEPARTMENT.

EACH LICENSED COMMERCIAL APPLICATOR SHALL BE ISSUED A PERMANENT NUMBER. SUFFICIENT TAGS WILL BE ISSUED THIS NUMBER TO COVER ALL LICENSE RIGS.

IDENTIFICATION TAGS SHALL BE RETURNED TO THE DEPARTMENT IF THE LICENSE IS REVOKED OR NOT RENEWED OR SUSPENDED.

IOWA - ALL COMMERCIAL APPLICATORS OF PESTICIDES SHALL BE REQUIRED TO SECURE A LICENSE AND BE ISSUED A PERMIT AND BE ASSIGNED A PERMIT NUMBER. THE SECRETARY OF AGRICULTURE SHALL REQUIRE PROOF OF COMPETENCE AND RESPONSIBILITY BEFORE ISSUING A LICENSE. UPON RECEIPT OF A PROPERLY EXECUTED APPLICATION AND PAYMENT OF REQUIRED FEES, (\$10.00 FOR THE FIRST APPLICATION, AND \$5.00 FOR EVERY RENEWAL), THE SECRETARY SHALL ISSUE A LICENSE PERMITTING A PERSON TO MAKE COMMERCIAL APPLICATIONS OF PESTICIDES, UNLESS THE SECRETARY BELIEVES SUCH ISSUANCE WOULD NOT BE IN THE PUBLIC INTEREST. THE EXPIRATION DATE OF LICENSES AND PERMITS SHALL BE OCTOBER 31 OF EACH YEAR.

AERIAL COMMERCIAL APPLICATORS SHALL REGISTER WITH THE IOWA AERONAUTICS COMMISSION AS WELL AS THE IOWA DEPARTMENT OF AGRICULTURE.

THE SECRETARY MAY REVOKE OR SUSPEND ANY LICENSE AFTER CONVICTION OF THE HOLDER FOR VIOLATION OF ANY PROVISION OF THE PESTICIDE ACT.

ALL LICENSED COMMERCIAL APPLICATORS SHALL ESTABLISH AND MAINTAIN A PROGRAM OF CONTINUED TRAINING OF PERSONNEL WHO APPLY OR DISPERSE PESTICIDES.

THE SECRETARY SHALL ADMINISTER A TESTING PROGRAM DESIGNED TO TEST AN APPLICATORS KNOWLEDGE OF THE USAGE, THE RATES OF APPLICATION AND PRECAUTIONS TO BE TAKEN IN USE OF ANY OR ALL PRODUCTS WHICH HE WILL BE APPLYING.

ALL COMMERCIAL APPLICATORS OF PESTICIDES SHALL HAVE A LICENSE. THE SECRETARY SHALL REQUIRE PROOF OF COMPETENCE AND RESPONSIBILITY BEFORE ISSUING A LICENSE, AND FOR THIS PURPOSE MAY REQUIRE THE COMMERCIAL APPLICATOR AND HIS FOREMAN WHO SUPERVISES THE APPLICATION OF ANY PESTICIDE IN IOWA, TO PASS A WRITTEN EXAMINATION BEFORE ISSUING THE LICENSE.

EVERY LICENSEE SHALL MAKE RECORDS OF HIS ACTIVITIES WHICH SHALL INCLUDE ON EACH PESTICIDE APPLIED:

- A. THE NAME OF THE LICENSEE.
- B. THE NAME AND ADDRESS OF THE LANDOWNER OR CUSTOMER.
- C. AN ADEQUATE AND PRECISE DESCRIPTION OF THE LAND AREA INVOLVED IN TREATMENT OUTDOORS WHEREVER LOCATED.
- D. THE DATE OF APPLICATION.
- E. THE PESTICIDE PRODUCT USED.
- F. THE QUANTITY USED AND RATE OF APPLICATION.
- G. THE DIRECTION AND ESTIMATED VELOCITY OF THE WIND AT THE TIME OF APPLICATION TO ANY OUTDOOR AREA.

A COPY OF SUCH RECORDS SHALL IN EVERY CASE BE KEPT IN THE APPLICATORS FILE FOR A PERIOD OF FIVE (5) YEARS FROM DATE OF APPLICATION. IF ANY CLAIM OR SUIT IS BROUGHT WITHIN SUCH PERIOD OF TIME, SAID RECORDS SHALL BE KEPT ON FILE AVAILABLE FOR SUBPOENA UNTIL FINAL DISPOSITION OF THE CLAIM OR SUIT. ANY SUCH RECORDS SHALL BE MADE AVAILABLE TO THE SECRETARY OR HIS REPRESENTATIVE UPON REQUEST AT ANY TIME.

ANY PERSON SEEKING TO OBTAIN A COMMERCIAL APPLICATOR'S LICENSE IN IOWA SHALL SUBMIT PROOF OF FINANCIAL RESPONSIBILITY TO THE SECRETARY, AND UPON OBTAINING A LICENSE SUCH PERSON SHALL MAINTAIN PROOF OF FINANCIAL RESPONSIBILITY AT ALL TIMES.

IT MAY CONSIST OF:

- A. PROOF OF UNENCUMBERED FINANCIAL NET WORTH OF THE APPLICANT IF A RESIDENT OF THE STATE, IN AN AMOUNT NOT LESS THAN \$5,000; EXCLUSIVE OF HIS HOMESTEAD.
- B. THE POSTING OF AN ACCEPTABLE BOND WITH THE SECRETARY OF AGRICULTURE FOR NOT LESS THAN \$5,000, HOWEVER THAT THE AGGREGATE LIABILITY OF THE SURETY TO ALL SUCH PERSONS SHALL, IN NO EVENT, EXCEED THE AMOUNT OF SUCH BOND.



C. THE FILING OF AN INSURANCE POLICY FROM A COMPANY AUTHORIZED TO DO BUSINESS IN THE STATE, FOR AN AMOUNT OF \$5,000 AGAINST PERSON OR PROPERTY DAMAGE FROM THE APPLICATION OF PESTICIDES.

D. REGARDLESS OF THE AMOUNT OF THE PROOF, IT IS STILL SUBJECT TO THE APPROVAL OF THE SECRETARY.

THE SECRETARY MAY REVOKE OR SUSPEND ANY LICENSE OF A COMMERCIAL APPLICATOR AFTER CONVICTION OF THE HOLDER FOR VIOLATION OF ANY PROVISION OF THE PESTICIDE ACT.

IF, UPON AN INVESTIGATION OF THE COMMERCIAL APPLICATOR, IT APPEARS AT ANY-TIME THAT SAID APPLICATOR HAS FAILED TO COMPLY WITH OR HAS VIOLATED ANY PROVISION OF THE ACT, OR HAS FAILED TO PAY ANY FINAL JUDGEMENT RENDERED AGAINST HIM FOR DAMAGES WITHIN 60 DAYS, OR HAS FAILED OR REFUSED TO FOLLOW SAFE AND RECOMMENDED PROCEDURES FOR THE APPLICATION OF ANY PESTICIDES, A WRITTEN NOTICE SHALL BE GIVEN TO THE APPLICATOR AND OPPORTUNITY TO PRESENT HIS VIEWS ORALLY OR IN WRITING ABOUT THE ALLEGED ACTS OR VIOLATIONS, AND AFTER SAID NOTICE AND AN OPPORTUNITY TO APPEAR, THE SECRETARY MAY REFUSE TO RENEW THE APPLICATOR'S LICENSE.

THE SECRETARY OF THE AGRICULTURE AND THE DEPARTMENT OF AGRICULTURE FOR THE STATE OF IOWA, HAVE QUITE EXTENSIVE SHIPPING AND HANDLING REGULATIONS CONCERNING THE USE OF PESTICIDES. FOR A COMPLETE SUMMARY OF THE REGULATIONS, A COPY OF THE "PESTICIDE ACT OF IOWA" SHOULD BE OBTAINED FROM THE IOWA DEPARTMENT OF AGRICULTURE.

ILLINOIS - THE STATE OF ILLINOIS HAS JUST PASSED A CUSTOM APPLICATORS LAW, WHICH WILL GO INTO EFFECT JANUARY 1, 1966. THE FINAL WRITING OF THE REGULATIONS HAVE AS YET NOT BEEN RELEASED. IN THE NEW LAWS WILL BE REQUIREMENTS TO THE EFFECT THAT CUSTOM APPLICATORS MUST PASS A WRITTEN EXAMINATION AND HOLD A VALID APPLICATORS LICENSE.

INDIANA - IN THE STATE OF INDIANA, THE CHOICE OF MATERIALS AND THE TIMING OF APPLICATIONS SHOULD BE IN ACCORDANCE WITH THE POLICY AND RECOMMENDATIONS OF THE COOPERATIVE EXTENSION SERVICE OF PURDUE UNIVERSITY. THESE RECOMMENDATIONS, OF COURSE, WILL VARY WITH THE PEST INVOLVED AND THE CROP ON WHICH THE MATERIAL IS TO BE APPLIED.

KANSAS - THE LAWS GOVERNING APPLICATION OF PESTICIDES IS TITLED ARTICLE 9, CHAPTER 3 OF THE GENERAL STATUTES.

NO OWNER OR OPERATOR MAY USE OR APPLY ANY INSECTICIDE, PESTICIDE, OR HERBICIDE UNLESS HE HAS FIRST REGISTERED WITH THE SECRETARY OF THE STATE BOARD OF AGRICULTURE. WHEN MAKING APPLICATION, HE MUST GIVE HIS NAME, PERMANENT

ADDRESS, AND TYPE OF EQUIPMENT FOR WHICH HE IS REGISTERING. IN THE CASE OF AIRCRAFT, ALSO, THE REGISTRATION NUMBER. HE SHALL PAY AN ANNUAL REGISTRATION FEE OF \$10.00 FOR EACH DISPERSING EQUIPMENT UNIT REGISTERED. THE FEE SHALL ACCOMPANY THE APPLICATION FORM WHICH IS SUPPLIED BY THE SECRETARY OF THE AGRICULTURE BOARD. ALL REGISTRATIONS SHALL EXPIRE ON DECEMBER 31 OF EACH YEAR.

ANY PERSON ARRESTED FOR FAILING TO REGISTER AND WHO DESIRES TO CONTINUE AS AN OPERATOR, SHALL AT THE TIME OF FILING AN APPEARANCE BOND, ALSO, IN ADDITION, FURNISH TO THE COURT A CORPORATE SURETY BOND, THAT WILL, IF CONVICTED, FURNISH TO THE COURT A SUM OF \$500.00 FOR EACH DAY, OR FRACTION THEREOF, OF OPERATION FROM THE DATE OF SUCH ARREST WITHOUT HAVING COMPLIED WITH THE REGISTRATION REGULATION.

EACH OWNER OR OPERATOR SHALL FURNISH A BOND BEFORE HIS REGISTRATION CAN BE APPROVED. THE BOND WILL BE IN THE AMOUNT OF \$2000.00 FOR THE FIRST DISPERSING UNIT, AND \$1000.00 FOR EACH ADDITIONAL UNIT FOR WHICH THE APPLICANT MAKES APPLICATION. SUCH BONDS SHALL BE FOR THE TERM OR THE REGISTRATION PERIOD AT LEAST. THE BONDS WILL BE USED FOR THE BENEFIT OF SUCH PERSONS AS MAY SUFFER INJURY OR DAMAGES AS THE RESULT OF THE APPLICANT'S NEGLIGENT DISPERSAL OF MATERIALS.

NON-RESIDENT APPLICANTS, MUST FURNISH EVIDENCE OF QUALIFICATIONS TO ENGAGE IN DISPERSING MATERIALS, AND SHALL MAKE PAYMENT OF REGISTRATION FEES CHARGED BY THEIR OWN STATE OR THE STATE OF KANSAS, WHICHEVER FEES ARE GREATER. THEY SHALL ALSO POST BONDS REQUIRED BY THEIR NATIVE STATE OR BY THE STATE OF KANSAS, WHICHEVER BOND AMOUNT IS GREATER.

EVERY REGISTRANT SHALL MAKE RECORDS OF HIS ACTIVITIES, WHICH SHALL INCLUDE ON EACH SPRAYING OR DUSTING JOB, THE NAME OF THE REGISTRANT, THE NAME OF THE LANDOWNER OR CUSTOMER, THE LEGAL DESCRIPTION OF THE AREA TREATED, THE DATE OF THE APPLICATION OF SPRAY OR DUST, THE KIND OF MATERIAL USED, THE QUANTITY USED. ONE COPY OF THE REPORT SHALL REMAIN IN THE APPLICATOR'S FILE FOR A PERIOD OF THREE YEARS FROM THE DATE OF THE APPLICATION OF DUST OR SPRAY CONCERNED. ANY SUCH REPORT SHALL BE FURNISHED TO THE SECRETARY UPON REQUEST AT ANY TIME. A DUPLICATE REPORT SHALL BE FURNISHED THE CUSTOMER IMMEDIATELY FOLLOWING THE APPLICATION OF DUST OR SPRAY.

ANY OWNER OR OPERATOR OPERATING IN THE STATE WITHOUT REGISTERING SHALL BE DEEMED GUILTY OF A MISDEMEANOR AND SHALL, UPON CONVICTION, BE PUNISHED BY A FINE OF NOT LESS THAN \$100.00 AND NOT MORE THAN \$500.00. EACH DAY OF OPERATION WITHOUT FIRST HAVING BEEN REGISTERED WITH THE SECRETARY SHALL BE DEEMED A SEPARATE OFFENSE.

THIS ACT SHALL NOT APPLY TO PERSONS OPERATING DISPERSING EQUIPMENT ON THEIR OWN OR PROPERTY LEASED BY THEM, OR A PERSON OPERATING SUCH EQUIPMENT FOR HIS NEIGHBORS IN EXCHANGE FOR WORK.



EACH REGISTRANT SHALL FILE WITH THE SECRETARY A REPORT OF HIS DISPERSING OF INSECTICIDES, FUNGICIDES, OR HERBICIDES WHICH SHALL INCLUDE ACRES TREATED, MATERIALS USED, RATES OF APPLICATION, CROPS TREATED, AND TYPE OF AREA TREATED ON A FORM WHICH SHALL BE SUPPLIED BY THE SECRETARY. THE REPORT MUST BE FILED NOT LATER THAN DECEMBER 31 OF EACH YEAR. NO LICENSE WILL BE ISSUED TO ANYONE FAILING TO REPORT AS REQUIRED.

KENTUCKY - NO PERSON SHALL ENGAGE HIMSELF AS AERIAL APPLICATOR UNTIL HE HAS PROCURED A LICENSE FROM THE STATE DEPARTMENT OF AERONAUTICS.

AN APPLICANT MUST:

FILE APPLICATION ON FORMS SUPPLIED BY THE DEPARTMENT.

SUBMIT HIS AIRCRAFT TO THE DEPARTMENT FOR INSPECTION AND PASS THE INSPECTION.

SUBMIT THE QUALIFICATIONS OF ALL PERSONS WHO WILL ACT AS PILOTS OF THE AIRCRAFT, AND THE PILOTS MUST BE FOUND TO BE QUALIFIED TO SAFELY OPERATE THE AIRCRAFT IN THE PERMIT SOUGHT.

A BOND MUST BE FILED WITH THE DEPARTMENT IN THE AMOUNT OF \$1000.00 SURETY AGAINST ANY DAMAGES CAUSED BY APPLICATION IN A NEGLIGENT OR WRONGFUL MANNER OR SELECTION OF DUST OR SPRAY. THIS MAY BE WAIVED BY THE DEPARTMENT IF IT IS SHOWN THAT THE APPLICANT HAS UNENCUMBERED PROPERTY IN THE STATE SUBJECT TO EXECUTION.

FILE WITH THE DEPARTMENT A POLICY OF PUBLIC LIABILITY INSURANCE ISSUED BY AN INSURANCE COMPANY AUTHORIZED TO DO BUSINESS IN KENTUCKY WHICH WILL INSURE THE APPLICANT IN THE AMOUNT OF NOT LESS THAN \$10,000.00 FOR DAMAGES TO PERSONS OR PROPERTY OF OTHERS.

PAY TO THE DEPARTMENT AN APPLICATION FEE OF \$25.00 TO COVER COSTS INCIDENTAL TO GRANTING OR REFUSING THE APPLICATION.

ANY APPLICANT AGGRIEVED BY THE RULING OF THE DEPARTMENT MAY PETITION THE DEPARTMENT FOR A HEARING.

ANY PERMIT GRANTED SHALL DESIGNATE BOTH THE PILOT AND THE AIRCRAFT, AND NO OTHER SHALL BE USED UNLESS SO ENDORSED BY THE STATE DEPARTMENT OF AERONAUTICS. THE PERSONNEL PERMITTED TO PILOT THE AIRCRAFT SHALL BE LISTED BY NAME ON THE PERMIT.

THE DEPARTMENT MAY REVOKE OR SUSPEND ANY LICENSE OR PERMIT FOR ANY VIOLATION, OR UPON ANY GROUNDS THAT AN APPLICATION WOULD BE DENIED.

LOUISIANA - IT SHALL BE UNLAWFUL TO APPLY PESTICIDES NOT REGISTERED WITH THE LOUISIANA DEPARTMENT OF AGRICULTURE EXCEPT WITH WRITTEN APPROVAL OF THE COMMISSIONER.

THE SALE AND USE OF DUST FORMULATIONS OF DANGEROUS HERBICIDES IS PROHIBITED. THIS DOES NOT INCLUDE WETTABLE POWDER AND DRY DUSTER FORMULATIONS MIXED IN WATER AND SPRAYED AS SUSPENSION.

THE SALE AND USE OF DANGEROUS HERBICIDE ESTER WHEREIN THE ALCOHOL RADICLE IS OF ALIPHATIC NATURE, AND CONTAINS FIVE OR LESS CARBON ATOMS IS PROHIBITED.

NO APPLICATION OF DANGEROUS HERBICIDE SHALL BE MADE WHEN THE WIND EXCEEDS TEN (10) MILES PER HOUR.

MINIMUM PERMISSIBLE SPRAY DISTANCES FROM PLANTS SUSCEPTIBLE TO DANGEROUS HERBICIDES ARE AS FOLLOWS:

WIND	DISTANCE
0-3 MILES PER HOUR	1-2 MILE DOWN WIND
4-6 MILES PER HOUR	1 MILE DOWN WIND
0-10 MILES PER HOUR	50 FEET UP WIND
7-10 MILES PER HOUR	2 MILES DOWN WIND
RIGHT ANGLES TO THE WIND OR DEAD	1-2 MILE

NO DANGEROUS HERBICIDE SHALL BE APPLIED BETWEEN APRIL 1 AND SEPTEMBER 15 OF EACH YEAR IN MOST PARISHES WITHOUT THE WRITTEN PERMISSION OF THE COMMISSIONER OF AGRICULTURE OR HIS AGENT. IN THE AREA OF ST. JOHN THE BAPTIST AND ST. JAMES PARISHES LYING BETWEEN THE MISSISSIPPI RIVER AND U.S. HIGHWAY 61, WRITTEN PERMISSION MUST BE OBTAINED FROM THE COMMISSIONER BETWEEN THE DATES OF MARCH 25 AND JUNE 15 OF EACH YEAR.

IT SHALL BE UNLAWFUL FOR ANY PERSON TO OPERATE OR ENGAGE IN AERIAL APPLICATION OF ANY MATERIALS CONTAINING PESTICIDES AS DEFINED IN THIS ACT, UNLESS SUCH PERSON HAS AN APPLICATOR'S LICENSE ISSUED BY THE COMMISSIONER OR UNLESS SUCH PERSON IS EXEMPT. SUCH LICENSE IS ISSUED ONLY UPON APPLICATION TO THE COMMISSIONER, AND ON A FORM SUPPLIED BY THE COMMISSIONER. THE APPLICATION WILL CONTAIN INFORMATION REGARDING THE APPLICANT'S QUALIFICATIONS AND PROPOSED OPERATIONS AND SUCH OTHER INFORMATION AS MAY BE SPECIFIED BY THE COMMISSIONER. AN ANNUAL INSPECTION OF EACH AIRCRAFT BY THE COMMISSIONER'S REPRESENTATIVE SHALL BE REQUIRED.

NO LICENSE SHALL BE VALID OR ISSUED OR RENEWED, UNLESS THE APPLICATOR SHALL HAVE FILED WITH THE COMMISSIONER A CORPORATE SURETY BOND IN THE MINIMUM AMOUNT OF \$10,000.00 GUARANTEEING THAT THE APPLICATOR WILL ANSWER IN DAMAGES TO ANY PERSON INJURED BY THE APPLICATOR'S PESTICIDE APPLICATION OR DRIFT TO PLANTS, ANIMALS, OR PROPERTY. THE COMMISSIONER MAY ACCEPT A CASH BOND



OR INSURANCE POLICY IN LIEU OF THE CORPORATE BOND. THE FORM AND SUFFICIENCY OF SUCH BOND SHALL BE DETERMINED BY THE COMMISSIONER,

ALL AIRCRAFT PILOTS AND GROUND SUPERVISORS WHO APPLY PESTICIDES SHALL HAVE A PERMIT WHICH SHALL BE ISSUED ONLY AFTER A WRITTEN EXAMINATION WITH RESPECT TO HIS KNOWLEDGE OF THE DANGERS INHERENT IN THE APPLICATION OF PESTICIDES. ONCE HE HAS HIS PERMIT, NO ANNUAL EXAM WILL BE NECESSARY UNLESS THE COMMISSION DEEMS IT NECESSARY.

ALL LICENSES AND PERMITS WILL EXPIRE ON THE 30TH DAY OF APRIL OF EACH YEAR AND SHALL BE RENEWED BEFORE THAT DATE OR HE WILL BE REQUIRED TO BE RE-EXAMINED.

THE FEES FOR APPLICATOR ARE \$25.00 ANNUALLY, WITH AN INSPECTION FEE OF \$10.00 FOR EACH AIRCRAFT AND \$10.00 INSPECTION FEE FOR ANY GROUND MECHANICAL EQUIPMENT. \$2.00 FEE FOR ANY HAND EQUIPMENT INSPECTION.

PERMIT FEES ARE \$2.00 AT THE TIME THE PERSON TAKES THE EXAMINATION AND \$1.00 FOR EACH RENEWAL.

LICENSES OF PERMITS MAY BE REVOKED OR SUSPENDED IF THE COMMISSION MADE UP OF THE COMMISSIONER AND A COMMITTEE OF APPLICATORS FIND THE PERSON GUILTY OF MISREPRESENTATION, OR HE HAS FAILED TO FURNISH THE COMMISSIONER, UPON REQUEST, TRUE INFORMATION REGARDING METHODS, PESTICIDE SAFETY MEASURE USED, WORK PERFORMED OR OTHER INFORMATION DEEMED ESSENTIAL BY THE COMMISSIONER, OR HE HAS MADE FALSE STATEMENTS IN HIS APPLICATION FOR ISSUANCE OR RENEWAL OF HIS PERMIT OR LICENSE, OR HE HAS VIOLATED ANY PORTIONS OF THE APPLICATIONS ACT.

PENALTIES FOR VIOLATIONS, IF FOUND GUILTY, WOULD BE A MISDEMEANOR AND PUNISHABLE BY A FINE OF NOT LESS THAN \$100.00 NOR MORE THAN \$500.00 OR BY IMPRISONMENT IN THE PARISH JAIL FOR NOT LESS THAN THIRTY DAYS AND NOT MORE THAN SIX MONTHS, OR BY FINE AND IMPRISONMENT.

ALL MONIES DERIVED FROM THE COLLECTION OF LICENSE AND PERMIT FEES AND INSPECTION FEES OR OTHER SOURCES INCIDENTAL TO THE OPERATION OF THIS LAW SHALL BE DEPOSITED IN THE GENERAL FUND OF THE STATE TREASURY.

THERE IS AN ADVISORY COMMITTEE OF 12 MEMBERS APPOINTED FOR THE CONTROL OF PESTICIDE APPLICATION, 3 MEMBERS APPOINTED FROM A LIST SUBMITTED BY THE LOUISIANA AERIAL APPLICATORS ASSOCIATION, 3 MEMBERS FROM THE LOUISIANA FARM BUREAU FEDERATION, 3 MEMBERS FROM A LIST OF LICENSED GROUND PESTICIDE APPLICATORS, AND 3 MEMBERS APPOINTED FROM A LIST FURNISHED BY THE LOUISIANA AGRICULTURE CHEMICAL ASSOCIATION. THE COMMITTEE DOES NOT RECEIVE ANY PAY OR ALLOWANCE FOR THESE SERVICES.

THE COMMISSIONER WITH THE ADVICE AND RECOMMENDATION OF THE ADVISORY COMMITTEE, SHALL HAVE THE AUTHORITY TO ADOPT SUCH RULES AND REGULATIONS CONCERNING THE APPLICATION OF PESTICIDES ACCORDING TO THE TIME OF YEAR, AREA, WIND VELOCITY, AND MAY RESTRICT THE APPLICATION OF SUCH MATERIAL AS MAY BE A

HAZARD. THE COMMISSIONER HAS THE AUTHORITY TO PROCURE SAMPLES OF SPRAY AND DUST AFTER OR BEFORE THEY ARE MIXED. THE COMMISSIONER OR HIS REPRESENTATIVE SHALL HAVE ACCESS TO ANY PREMISES WHERE THERE IS REASON TO BELIEVE THAT A PESTICIDE IS BEING APPLIED OR WHERE ANY APPLICATOR IS BASED OR PREPARING TO APPLY ANY PESTICIDE MIXTURE.

NONE OF THIS ACT APPLIES TO FARMERS ENGAGED IN SPRAYING THEIR OWN LAND USING THEIR OWN AIRCRAFT OR GROUND EQUIPMENT, UNLESS THE EQUIPMENT IS USED FOR HIRE TO SERVICE PROPERTY NOT OWNED BY THEM IN EXCESS OF 200 ACRES.

MAINE - THE STATE OF MAIN, AT THIS TIME, HAS NO LAWS PERTAINING TO THE AGRICULTURAL SPRAYING BY AIR.

BEFORE THE 1965 LEGISLATURE, HOWEVER, IS A BILL NO. 380, WHICH, IF ADOPTED, WOULD:

SET UP A BOARD OF PESTICIDE CONTROL, COMPOSED OF MEMBERS OF THE VARIOUS STATE DEPARTMENTS, FISHERIES, AGRICULTURE, PUBLIC UTILITIES, ETC.

THEY PROPOSE LICENSES TO THE APPLICATORS AT \$10.00 FEE. APPLICATION FOR WHICH AN APPLICANT MUST SHOW QUALIFICATIONS, PROPOSED OPERATIONS, AND ANY OTHER ITEMS THE BOARD SO DESIRES.

THE BOARD MAY ALSO IF THE BILL IS PASSED, REQUIRE AN EXAMINATION OF THE APPLICANT TO DEMONSTRATE HIS QUALIFICATIONS AND SKILL.

THE PROPOSAL IS THAT AN APPLICANT MAY BE LICENSED, YET RESTRICTED TO THE USE OF ONLY CERTAIN MATERIALS, IF HIS QUALIFICATIONS SHOW HE IS QUALIFIED TO USE ONLY CERTAIN TYPES.

THE BOARD MAY SUSPEND, FOR NOT LONGER THAN 10 DAYS, AND PRECEDING A PUBLIC HEARING, ANY LICENSE, IF THEY FIND THE LICENSEE NO LONGER QUALIFIED, HAS ENTERED INTO FRAUDULENT BUSINESS PRACTICES, OR HAS VIOLATED ANY OF THE PROPOSED REGULATIONS.

THE BOARD SHALL REQUIRE A BOND OF AN AMOUNT AND TYPE PRESCRIBED BY THE BOARD.

THE BOARD MAY ISSUE A LICENSE TO AN OUT OF STATE OPERATOR, WITHOUT AN EXAMINATION, IF HE HOLDS A LICENSE IN HIS NATIVE STATE WHICH HAS REGULATIONS SIMILAR TO THE ONES PROPOSED FOR MAINE.

THE BOARD MAY PROVIDE FOR INSPECTION OF ANY EQUIPMENT USED FOR APPLICATION OF PESTICIDES, AND ALSO, MAY DESIGNATE CRITICAL AREAS, ETC.

THE BOARD MAY REQUIRE RECORDS TO BE KEPT, AND MADE AVAILABLE TO THE BOARD BY ANY LICENSED OPERATOR.



ANY CONVICTIONS FOR VIOLATIONS TO THE PROPOSED BILL WILL BE GUILTY OF A MISDEMEANOR AND SUBJECT TO FINE OF NOT LESS THAN \$100.00 NOR MORE THAN \$500.00 FOR EACH OFFENSE. EACH SEPARATE DAY OF OPERATION OUTSIDE THIS PROPOSED BILL WILL BE CONSIDERED A SEPARATE OFFENSE.

THE PROPOSED BILL ALLOWS MEMBERS OF THE BOARD OR THEIR DESIGNEES TO ANY PREMISES FOR INSPECTIONS CONCERNING THE APPLICATION OF PESTICIDES.

THE BOARD MAY SET UP OTHER REGULATIONS IT DEEMS NECESSARY. THIS IS GENERALLY THE GIST OF THE PROPOSED REGULATION. A CHECK SHOULD BE MADE LOCALLY TO GET THE EXACT WORDING OF THE NEW BILL, IF ONE PASSES, AND ALSO CHECK ON THE LOCAL BOARDS FOR ADDITIONAL RULINGS.

MARYLAND - THE ONLY REFERENCE CONCERNING THE APPLICATION OF PESTICIDES FOR THE STATE OF MARYLAND IS REFERENCE TO THE STATE BOARD OF AGRICULTURE AND STATE ENTOMOLOGIST BEING EMPOWERED TO HIRE AN APPLICATOR TO HELP IN THE ERADICATION OF PESTS OR INFESTATIONS. THE ACTUAL OPERATION OF THE SPRAYING OR DUSTING AIRCRAFT WOULD COME UNDER SEPARATE LAWS GOVERNED BY THE STATE AERONAUTICAL PEOPLE.

MASSACHUSETTS - APPLICATION OF PESTICIDES ARE REGULATED BY A PESTICIDE BOARD WITHIN THE DEPARTMENT OF HEALTH. ALL PERSONS USING AIRCRAFT FOR APPLICATION OF PESTICIDES MUST BE LICENSED BY THE BOARD.

THE BOARD SETS THE RULES AND REGULATIONS FOR LICENSES AS THEY DEEM NECESSARY. THE ANNUAL FEE SHALL NOT EXCEED \$5.00.

VIOLATIONS ARE PUNISHABLE BY A FINE OF \$500.00 OR 2 MONTHS IMPRISONMENT OR BOTH.

IN ADDITION TO THE ABOVE THE BOARD MAY PROVIDE PENALTIES FOR VIOLATIONS OF THEIR RULES AND REGULATIONS NOT TO EXCEED A FINE OF \$100.00 FOR THE FIRST OFFENSE AND \$500.00 FOR SUBSEQUENT OFFENSES.

MICHIGAN - AERIAL APPLICATIONS ARE GOVERNED BY PUBLIC ACT NO. 233 OF 1959. LICENSES ARE ISSUED BY THE DIRECTOR OF AGRICULTURE. APPLICANT MUST SHOW HIS KNOWLEDGE OF THE EFFECTS OF ECONOMIC POISONS UPON CROPS, PLANTS, LIVESTOCK, AND WILDLIFE. KNOWLEDGE OF PROPER DOSING IS REQUIRED. THERE IS A FEE OF \$10.00 PER YEAR FOR A NEW LICENSE OR A RENEWAL. IF APPLICANT HAS ANY UNSATISFIED JUDGEMENTS AGAINST HIM, HE MAY BE REQUIRED TO POST A BOND. OR THE DIRECTOR MAY REFUSE TO ISSUE ANY LICENSE. VIOLATIONS ARE MISDEMEANORS.

MINNESOTA - OPERATORS ARE GOVERNED BY COMMISSIONER OF AERONAUTICS AND MINNESOTA STATUTES, 1957, SECTION 360-013.

A FEE OF \$10.00 PER YEAR ACCOMPANIES EACH APPLICATION FOR LICENSE. EACH AIRCRAFT MUST BE LICENSED AND REGISTERED WITH THE COMMISSION. EACH PILOT MUST ALSO BE REGISTERED. THE OPERATOR MUST MAINTAIN A FIXED BASE OF OPERATIONS IN WHICH HE SHALL DISPLAY THE STATE LICENSE AND ALSO KEEP RECORDS OF EACH FLIGHT SHOWING DATE, TIME, DURATION AND PILOT'S NAME. HE MUST ALSO KEEP AN ACCURATE LIST OF PILOTS IN EMPLOY WITH CERTIFICATE TYPE, NUMBER, RATINGS, ADDRESS, DATE OF LAST PHYSICAL. ALSO, HE MUST KEEP A LIST OF ALL AIRCRAFT BEING USED, AND OPERATOR MUST OBTAIN HANGAR FOR AIRCRAFT.

MISSISSIPPI - UNDER STATE LAW, IN MISSISSIPPI, ANYONE APPLYING PESTICIDES MUST HAVE A LICENSE ISSUED BY THE STATE PLANT BOARD. ON THEIR APPLICATION FORM IS SPACE FOR 4 REFERENCES, ONE OF WHICH MUST BE A BANK, AND ANOTHER FROM SOME ONE WHO CAN ATTEST TO THE QUALIFICATIONS OF THE APPLICANT AS TO HIS ABILITY IN THE APPLICATION OF PESTICIDES. ALSO, A TEST MUST BE PASSED WHICH DETERMINES THE APPLICANTS ABILITY AND KNOWLEDGE OF THE APPLICATION OF PESTICIDES AND THE DANGERS INHERENT IN THE APPLICATION OF SAME.

THE APPLICANT MUST ALSO FURNISH CREDIT REFERENCES EITHER FROM A LOCAL CREDIT BUREAU OR FROM A NATIONALLY RECOGNIZED BUREAU, SUCH AS DUN AND BRAD-STREET.

THE APPLICANT MUST ALSO REGISTER WITH THE MISSISSIPPI AERONAUTICS COMMISSION AND SHALL RECEIVE FROM THEM A CERTIFICATE CERTIFYING THE SUFFICIENCY AND CONDITION OF THE AIRCRAFT TO BE USED, AND THE QUALIFICATION, FITNESS AND TRAINING OF THE OPERATOR OF SUCH AIRCRAFT, AND A COPY OF SUCH CERTIFICATE MUST BE FILED WITH THE PLANT BOARD.

SPRAYING EQUIPMENT MUST BE INSPECTED AND MEET SPECIFICATIONS OF THE PLANT BOARD INSPECTOR.

A SURETY BOND, INSURANCE POLICY OR OTHER SECURITY SATISFACTORY TO THE BOARD, OF A MINIMUM AMOUNT OF \$10,000.00 FOR EACH AIRCRAFT, MUST BE FILED WITH THE BOARD, AND MUST GUARANTEE COMPLETE CHEMICAL LIABILITY COVERAGE.

THE LICENSE EXPIRES ON DECEMBER 31 OF EACH YEAR.

ALL NON-RESIDENT APPLICANTS MUST APPOINT A RESIDENT AS HIS AGENT, UPON WHOM PROCESS MAY BE SERVED. PROCESS AGENT WILL HAVE A POWER OF ATTORNEY TO SERVE A PROCESS ON THE APPLICANT.

UPON LICENSE BEING ISSUED AND AIRCRAFT BEING INSPECTED, THE BOARD WILL ISSUE THE APPLICANT A METAL PLATE FOR EACH AIRCRAFT PASSING INSPECTION, STATING THAT THE AIRCRAFT DID PASS, AND THE DATE OF INSPECTION EXPIRATION SHALL BE THE SAME AS THE LICENSE EXPIRATION DATE OF THE OPERATOR.

THE BOARD MAY SUSPEND A LICENSE FOR NOT MORE THAN 10 DAYS IF THEY FIND ACTS OF THE OPERATOR ARE FRAUDULENT IN BUSINESS PRACTICE, OR THAT HE HAS



APPLIED PESTICIDES IN A FAULTY OR NEGLIGENT MANNER, OR HAS VIOLATED ANY OF THE RULES AND REGULATIONS GOVERNING SPRAYING AND DUSTING. AFTER A HEARING THE BOARD MAY SUSPEND, REVOKE, OR MODIFY SUCH LICENSE.

THE SPRAY EQUIPMENT ON THE AIRCRAFT MUST MEET THE FOLLOWING REQUIREMENTS:

1. THE AIRCRAFT MUST HAVE A POSITIVE OPERATED SHUTOFF IN THE COCKPIT AT THE TANK, AND THE SAME OR ITS EQUIVALENT AT EACH NOZZLE, AND MUST BE KEPT IN GOOD OPERATING CONDITION.
2. NOZZLES SHOULD BE CYLINDRICAL JET PRODUCING TYPES, WITH NOT LESS THAN 1-8 INCH DIAMETER, SIMPLE ORIFICE OR TUBE WITH NO MECHANISM WHICH WOULD CAUSE A SHEET, CONE, FAN OR OTHER DISPERSION PATTERN WHICH WOULD BREAK UP INTO DROPLETS SMALLER THAN THOSE PRODUCED BY A SIMPLE JET.
3. THE PRESSURE AT THE NOZZLE SHALL NOT EXCEED 20 POUNDS PER SQUARE INCH. THE NUMBER OF NOZZLES SHALL BE SUFFICIENT TO DELIVER NOT LESS THAN 5 GALLONS OF WATER SOLUTION PER ACRE, FOR APPLICATIONS MADE FROM APRIL 1 TO SEPTEMBER 30, AND 2 GALLONS PER ACRE FOR APPLICATION MADE BETWEEN OCTOBER 1 AND MARCH 31. IF MORE THAN 5 GALLONS IS TO BE APPLIED, THIS MAY BE ACCOMPLISHED BY INCREASING THE NUMBER OF NOZZLES, OR DIAMETER OF THE ORIFICE OPENINGS, BUT IN NO EVENT MUST THE PRESSURE BE INCREASED ABOVE 20 P.S.I.
4. NO NOZZLE SHALL BE PLACED CLOSER THAN 3 FEET OF THE WINGTIP ON FIXED WING AIRCRAFT. AND THE NOZZLE DISCHARGE SHALL BE DIRECTED WITH THE SLIP-STREAM OF NOT MORE THAN 10 DEGREES DOWNWARD FROM THE HORIZONTAL.
5. IN FIXED WING AIRCRAFT, AT LEAST THE VERTICAL TAIL RUDDER MUST BE PAINTED PURPLE. IN THE CASE OF HELICOPTERS, THE LETTERS 2, 4-D OR 2, 4, 5-T MUST BE PAINTED ON THE BOTTOM OR SIDES OF THE TANKS IN LETTERS AT LEAST 2 INCHES WIDE AND 2 FEET HIGH, USING PURPLE PAINT. THE PAINT CAN NOT BE THE TYPE EASILY REMOVED BY WATER, AND MUST BE OF THE TYPE TO REMAIN ON THE AIRCRAFT THROUGHOUT THE ENTIRE SEASON.
6. THE APPLICATION EQUIPMENT MUST BE INSPECTED BY AN INSPECTOR OF THE STATE PLANT BOARD.
7. NO TRANSPORTATION OF MATERIALS BY AIRCRAFT, OTHER THAN IN THE OPERATION OF SPRAYING OR DUSTING, WILL BE PERMITTED, AND THE AIRCRAFT EQUIPMENT WILL BE THOROUGHLY FLUSHED AFTER COMPLETE TREATMENT OF CROPS FROM ANY ONE FIELD, AND MOVING ON TO THE NEXT.
8. NO HORMONE TYPE HERBICIDE SHALL BE APPLIED WHEN THE WIND VELOCITY EXCEEDS 5 MILES PER HOUR.
9. EQUIPMENT USED TO SPRAY HORMONE TYPE HERBICIDES SHALL NOT BE USED TO SPRAY ANY OTHER TYPE OF PESTICIDES EXCEPT IN THE CASE OF SPRAY EQUIPMENT, WHERE THE TANK NOZZLES AND BOOM HAVE BEEN REPLACED AND WRITTEN CLEARANCE HAS BEEN GIVEN BY THE BOARD.

10. NO HORMONE TYPE SHALL BE APPLIED FROM A HEIGHT GREATER THAN 10 FEET ABOVE THE TOPS OF THE PLANTS BEING TREATED, OR OVER ANY OTHER PROPERTY OR CROPS.

11. NOTICE OF INTENT TO SPRAY MUST BE POSTED IN THE OFFICE OF COUNTY AGENT AT LEAST 24 HOURS BEFORE THE SPRAYING IS TO BE ACCOMPLISHED AND MUST GIVE THE FOLLOWING INFORMATION: NAME AND ADDRESS OF THE PROPERTY OWNER, LOCATION BY DISTANCE AND DIRECTION FROM THE NEAREST TOWN, LOCATION OF THE LOADING FIELD AND THE LINE OF FLIGHT TO BE TAKEN, AND COPY OF THE NOTICE MUST BE MAILED TO THE STATE PLANT BOARD.

12. A RECORD OF SPRAYING ACCOMPLISHED MUST BE MAILED TO THE STATE PLANT BOARD WITHIN 24 HOURS AFTER THE SPRAYING HAS BEEN ACCOMPLISHED, ON A FORM PROVIDED BY THE BOARD.

MISSOURI - AT THE PRESENT TIME THE STATE OF MISSOURI HAS NO LAWS GOVERNING APPLICATION BY AIRCRAFT.

MONTANA - IN ADDITION TO THE \$1,00 FEE FOR REGISTERING AIRCRAFT FOR AG WORK, THE FOLLOWING REQUIREMENTS ARE TO BE COMPLIED WITH:

1. AIRCRAFT WILL BE COVERED BY PUBLIC LIABILITY AND PROPERTY DAMAGE IN THE AMOUNT OF \$ 3,000,00 - \$50,000,00 AND \$25,000,00.

2. CERTIFICATE OF WAIVER FORM FAA 663.

3. REGISTRATION CERTIFICATE FORM ACA 500 WILL BE IN ORDER AND IN THE AIRCRAFT.

4. CURRENT WEIGHT AND BALANCE AS REQUIRED WILL BE IN THE AIRCRAFT.

5. OPERATIONS LIMITATIONS FAA FORM 309 OR FAA APPROVED MANUAL WILL BE IN THE AIRCRAFT.

THE REQUIREMENT CONCERNING PUBLIC LIABILITY INSURANCE COVERAGE DOES NOT HAVE TO BE COMPLIED WITH IF SPRAYING HIS OWN PERSONAL PROPERTY.

NEBRASKA - A WAIVER IS REQUIRED FROM THE STATE DEPARTMENT OF AERONAUTICS FOR ANYONE ENGAGING IN AERIAL APPLICATION. A SEAL OF SUCH WAIVER MUST BE DISPLAYED AND AVAILABLE TO THE INSPECTION OF LAW ENFORCEMENT AGENCY.

APPLICATION WILL BE MADE ON FORMS PROVIDED BY THE DEPARTMENT AND CONTAIN SUCH INFORMATION AS THEY REQUIRE. A BOND, APPROVED BY THE DIRECTOR FOR \$1000,00 MUST BE SUBMITTED WITH THE APPLICATION FOR EACH AIRCRAFT PROPOSED TO BE OPERATED.



A WAIVER WILL NOT BE GRANTED UNLESS THE APPLICANT SHALL HAVE A CURRENT WAIVER FROM THE FAA AUTHORIZING SUCH ACTIVITIES, THE AIRCRAFT AND INSTALLATION OF SPRAYING EQUIPMENT SHALL BE APPROVED BY THE FAA, AND THAT THE APPLICANT OR PERSON IN CHARGE OF THE OPERATION IS A DULY CERTIFIED COMMERCIAL PILOT, WITH CURRENT MEDICAL CERTIFICATE WHO HAS 350 HOURS DUAL, SOLO, AND PILOT IN COMMAND TIME, 5 HOURS DUAL SIMULATED AERIAL APPLICATION TIME (CERTIFIED BY A CERTIFIED AERIAL APPLICATION PILOT WITH A MINIMUM OF 2 YEARS AERIAL APPLICATION PILOT EXPERIENCE.). THE APPLICANT SHALL HAVE A MINIMUM OF 1 YEAR'S EXPERIENCE IN AERIAL APPLICATION UNDER THE DIRECT SUPERVISION OF A SUPERVISOR PILOT WITH A MINIMUM OF 2 YEAR'S EXPERIENCE. DURING THE 1 YEAR OF EXPERIENCE THE APPLICANT MUST HAVE LOGGED AT LEAST 40 HOURS AERIAL APPLICATION TIME.

NO WAIVER-HOLDER SHALL EMPLOY AS AERIAL APPLICATOR PILOT, ANY PERSON NOT HAVING AT LEAST A VALID COMMERCIAL FAA CERTIFICATE, A CURRENT MEDICAL, AND AT LEAST 350 HOURS DUAL, SOLO AND PILOT IN COMMAND LOGGED TIME. HE MUST ALSO HAVE AT LEAST 5 HOURS DUAL SIMULATED AERIAL APPLICATION TIME CERTIFIED BY A COMMERCIAL AERIAL APPLICATION PILOT. EMPLOYMENT OF SUCH AN INDIVIDUAL SHALL CONSTITUTE A VIOLATION OF THE REGULATIONS AND SHALL BE JUST CAUSE FOR REVOCATION OF THE WAIVER.

NEVADA - ALL PERSONS CONDUCTING A BUSINESS IN PEST CONTROL INCLUDING DUSTING AND SPRAYING MUST HAVE A LICENSE, WHICH IS ISSUED BY THE NEVADA DEPARTMENT OF AGRICULTURE. APPLICATION FOR THE LICENSE IS MADE ON A FORM GIVEN OUT BY THE DEPARTMENT.

THE APPLICANT SHALL SUBMIT INFORMATION AS THE DIRECTOR SO DESIRES, SHOWING THE CHARACTER, QUALIFICATIONS, RESPONSIBILITY, AND GOOD FAITH OF THE APPLICANT. EACH APPLICANT FOR LICENSE AS AN OPERATOR MUST PASS A WRITTEN EXAMINATION TO DEMONSTRATE HIS ABILITY TO CONDUCT OPERATIONS OF APPLICATION AND HIS KNOWLEDGE OF THE NATURE AND EFFECT OF THE MATERIALS USED. THE LICENSE IS FOR THE FISCAL YEAR AND EXPIRES JUNE 30.

THERE ARE 3 TYPES OF LICENSE BASED UPON QUALIFICATIONS: GENERAL LICENSE - AUTHORIZES ALL TYPES OF PEST CONTROL. LIMITED LICENSE - LIMITS LICENSEE TO DO WORK IN A SPECIFIC FIELD OF APPLICATION. RESTRICTED LICENSE - LIMITS OPERATOR TO WORK ON A SPECIFIC CROP.

WRITTEN INSPECTION REPORTS ARE REQUIRED NAMING ANY WOOD-DESTROYING PESTS PRESENT. APPLICANT MUST EITHER SUBMIT PROOF OF AT LEAST 200 HOURS AG FLYING TIME OR DEMONSTRATE HIS ABILITY TO AG FLY IN ACCORDANCE WITH THE DIRECTIVES OF THE DIRECTOR OF THE DEPT. OF AGRICULTURE.

A FEE OF \$25.00 PER YEAR FOR THE OPERATOR AND \$10.00 PER YEAR FOR EACH PILOT AND \$10.00 PER YEAR FOR EACH SOLICITOR-AGENT ARE REQUIRED.

NEW HAMPSHIRE - No person, firm, or corporation shall engage in or advertise to improve the condition of fruit or other trees either by spraying or other means without having secured a certificate. This does not apply to persons improving their own property or that of their employer. The certificate is issued after an examination by the board set up by the Department of Agriculture, such certificate shall expire at the close of the calendar year, and may be renewed by the board without further examination. A fee of \$2.00 will be charged for the certificate.

Any person failing to comply with the regulations of the Department of Agriculture may be subject to a fine of not more than \$100.00.

NEW JERSEY - There is a law in New Jersey that all distributors, dealers, etc., for pesticides shall be registered by the state. This is handled at the New Jersey Agricultural Experiment Station Rutgers University, at New Brunswick, New Jersey.

An FAA license is ample except an applicator must obtain form from Department of Conservation and Economic Development, Bureau of Aeronautics, for a special landing strip license.

NEW MEXICO - It is unlawful for any person to engage in aerial or ground application unless he has an applicator permit issued by the Board of Regents of the New Mexico State University.

Application shall be made on a form prescribed by the board, and the applicant must pass a written examination to show proper qualifications. Examinations not to be more than one in any thirty day period may be made to further demonstrate the qualifications of the applicant. All permits shall expire on the 31st of December of each year. A fee of \$25.00 shall be paid to the board for issuance or renewal of a permit, for each unit of an aerial applicator, and \$10.00 for each ground unit.

A bond must also be posted by the applicant in the amounts as follows:

1. BOND - \$3,000.00 minimum for two aircraft plus \$1,000.00 for each additional aircraft.  
LIABILITY INSURANCE - \$6,000.00 minimum for two aircraft and \$2,000.00 for each additional aircraft.  
CASH - \$3,000.00 minimum for two aircraft plus \$1,000.00 for each additional aircraft.

For ground applicators the following applies:

BOND - A minimum of \$1,000.00 for one unit plus \$500.00 for each additional unit.  
LIABILITY INSURANCE - \$2,000.00 for one unit plus \$500.00 for each additional unit.



CASH - \$1000.00 FOR ONE UNIT PLUS \$500.00 FOR EACH ADDITIONAL UNIT.

EACH APPLICANT OR PERMIT HOLDER MUST KEEP THE FOLLOWING RECORDS AND HOLD THEM FOR A PERIOD OF TWO YEARS:

DATE TIME AND METHOD OF APPLICATION,  
PESTICIDE USED AND DOSAGE,  
NAME AND ADDRESS OF PERSON CONTRACTING APPLICATION,  
NAME AND ADDRESS OF OWNER OF AREA TREATED,  
LOCATION OF AREA TREATED.

THESE RECORDS MAY BE SUBJECT TO INSPECTION BY REPRESENTATIVES OF THE BOARD OF REGENTS.

NEW YORK - THERE ARE NO CURRENT REGULATIONS GOVERNING THE APPLICATION OF PESTICIDES EITHER BY AIR OR GROUND. ALL PESTICIDES AND DEALERS MUST BE REGISTERED WITH THE STATE DEPARTMENT OF AGRICULTURE.

ALL AIRCRAFT USED IN THE APPLICATION OF PESTICIDES MUST ADHERE TO THE DEPARTMENT OF COMMERCE REGULATIONS CONCERNING GENERAL AIRCRAFT.

NORTH CAROLINA - BESIDES BEING FULLY LICENSED BY THE FAA, THE AERIAL APPLICATOR IN THE STATE OF NORTH CAROLINA MUST BE LICENSED BY THE STATE DEPARTMENT OF AGRICULTURE. TWO TYPES OF LICENSE ARE PROVIDED, THE CONTRACTORS LICENSE, AUTHORIZING THE HOLDER TO CONTRACT FOR AERIAL APPLICATION, AND THE AIRPLANE APPLICATORS LICENSE, AUTHORIZING THE PILOT TO APPLY PESTICIDES. IF YOU BOTH CONTRACT AND APPLY, YOU MUST HAVE BOTH LICENSES.

LIABILITY INSURANCE COVERAGE REQUIRED IS AT LEAST \$5000.00 PROPERTY DAMAGE, \$10,000.00 INJURY TO PERSONS AND \$20,000.00 FOR ANY ONE ACCIDENT.

AN APPLICANT MAY HAVE TO TAKE AN EXAMINATION. ALL LICENSES EXPIRE ON DECEMBER 31 OF EACH YEAR. THE BOARD MAY ALSO REQUIRE THE APPLICATOR TO MAINTAIN RECORDS AND FURNISH REPORTS WITH RESPECT TO EACH INDIVIDUAL APPLICATION.

ANY PERSON VIOLATING THE RULES AND REGULATIONS MAY BE GUILTY OF A MISDEMEANOR AND SUBJECT TO A FINE OR IMPRISONMENT OR BOTH.

EACH CONTRACTOR SHALL SUBMIT A YEARLY REPORT OF HIS APPLICATIONS ON OR BEFORE DECEMBER 31. THE BOARD WILL FURNISH THE NECESSARY FORMS FOR THIS REPORT.

NORTH DAKOTA - EACH PERSON OR COMPANY ENGAGING IN THE BUSINESS OF AERIAL APPLICATION SHALL OBTAIN AN AERIAL APPLICATOR'S LICENSE FROM THE NORTH DAKOTA AERONAUTICS COMMISSION. FORMS FOR SUCH LICENSES ARE ISSUED BY THE COMMISSION. EACH LICENSE EXPIRES DECEMBER 31 OF EACH YEAR.

EACH OPERATION SHALL HAVE A CHIEF PILOT, WHO MUST HAVE A COMMERCIAL LICENSE WITH A MINIMUM OF 750 HOURS SOLO, AND 250 HOURS IN AIRCRAFT TYPE TO BE USED IN THE OPERATION. HE MUST ALSO HAVE 1 YEAR APPRENTICE COMMERCIAL SPRAYING EXPERIENCE, AND AT LEAST 80 HOURS TOTAL AERIAL SPRAYING TIME CERTIFIED TO BY ANOTHER CHIEF PILOT. OTHER PILOTS EMPLOYED MUST BE GIVEN A MINIMUM OF 5 HOURS SIMULATED DUAL SPRAYING TIME UNDER SUPERVISION OF THE CHIEF PILOT. THE CHIEF PILOT MUST BE LOCATED IN NORTH DAKOTA DURING THE TIME OF ACTUAL SPRAYING OPERATIONS.

EACH AIRCRAFT USED FOR APPLICATION MUST HAVE A POSITIVE SHUTOFF DEVICE AT EACH NOZZLE. MAXIMUM SWATH WIDTH SHALL BE LIMITED TO 45 FEET FOR LIGHT AIRCRAFT AND 60 FEET FOR HEAVY AIRCRAFT. ONE FLAGMAN SHALL BE ON THE IMMEDIATE SITE IN FIELDS OVER 80 ACRES. A SUPERVISOR WITH KNOWLEDGE OF CHEMICALS SHALL ALSO BE ON THE SITE.

RECORDS OF ALL APPLICATIONS WILL BE MADE AND COPIES OF THE RECORDS WILL BE MAILED TO THE COMMISSION WITHIN 10 DAYS AFTER THE END OF EACH CALENDAR MONTH. REPORTS SHALL CONTAIN THE FOLLOWING INFORMATION:

1. NAME AND ADDRESS OF PERSON CONTRACTING THE SERVICE.
2. PROPERTY DESCRIPTION.
3. CROP TREATED AND VARIETY.
4. STAGE OF CROP GROWTH.
5. PESTS OR WEEDS TO BE CONTROLLED.
6. BRAND AND TYPE CHEMICAL USED, ALSO SOLUTION.
7. QUANTITY OF CHEMICAL PER ACRE OR AMOUNT PER ACRE.
8. DATE AND TIME OF TREATMENT.
9. WIND VELOCITY AND DIRECTION.

AN APPLICANT SHALL HAVE NO UNSETTLED CLAIMS OR JUDGEMENTS AGAINST HIM.

SHOULDER HARNESES MUST BE USED BY THE PILOTS, ALSO CRASH HELMETS MUST BE USED.

VIOLATIONS OF THE RULES AND REGULATIONS MAY SUBJECT THE APPLICATOR TO A FINE OF NOT MORE THAN \$100.00 OR IMPRISONMENT OF NOT MORE THAN 30 DAYS OR BOTH.

THE LICENSE FEES ARE REGULAR AIRCRAFT REGISTRATION FEES, PLUS A SPECIAL AERIAL APPLICATION LICENSE FEE OF \$15.00 FOR EACH AIRPLANE, AND \$3.00 FEE FOR EACH PILOT.

OHIO - ALL FAA REGULATIONS APPLY. ONLY OTHER REGULATIONS CONCERN LOW FLYING AIRPLANES. ALL SUCH AIRCRAFT BASED IN OHIO MUST BE REGISTERED WITH THE STATE DIVISION OF AVIATION.

OUT OF STATE AIRCRAFT ENGAGED IN SPRAYING OPERATIONS ARE ASKED TO INFORM THE STATE DIVISION OF AVIATION AS TO LOCATION OF THE APPLICATION JOB.

OKLAHOMA - EVERY PERSON OPERATING OR DOING BUSINESS AS AN APPLICATOR MUST HAVE AN APPLICATOR'S PERMIT, ISSUED BY THE BOARD OF AGRICULTURE. APPLICATION FOR SUCH PERMIT SHALL BE MADE ON A FORM ISSUED BY THE BOARD, AND SHALL CONTAIN INFORMATION AS TO THE APPLICANTS QUALIFICATIONS AND PROPOSED OPERATION.

A PERMIT WILL BE ISSUED ONLY AFTER A WRITTEN EXAMINATION IS PASSED BY THE APPLICANT. THE PERMITS WILL EXPIRE ON THE 31ST OF DECEMBER OF EACH YEAR, AND MAY BE RENEWED WITHOUT EXAMINATION. A FEE OF \$25.00 WILL BE PAID FOR THE ISSUANCE OF RENEWAL OF AN AERIAL APPLICATORS PERMIT AND \$10.00 FOR ALL OTHER APPLICATORS.

A SURETY BOND MUST BE FILED WITH THE BOARD GUARANTEEING THE ANSWER TO DAMAGES BY THE APPLICATOR. THE SURETY WILL BE IN THE AMOUNT OF \$3000 BOND FOR TWO AIRCRAFT AND AN ADDITIONAL \$1000.00 FOR EACH ADDITIONAL AIRCRAFT. LIABILITY INSURANCE OF \$6000.00 FOR TWO AIRCRAFT AND \$2000.00 FOR EACH ADDITIONAL AIRCRAFT ARE REQUIRED.

ACTION FOR CLAIM OF DAMAGES AGAINST THE APPLICATOR MUST BE BROUGHT WITHIN 60 DAYS OR BEFORE 25 PER CENT OF THE CROP DAMAGED HAS BEEN HARVESTED.

EVERY APPLICATOR MUST MAINTAIN AND KEEP RECORDS ON A FORM PRESCRIBED BY THE BOARD, SHOWING TIME AND PLACE OF APPLICATION, NAME AND ADDRESS OF PERSON CONTRACTING, AND OTHER INFORMATION PRESCRIBED BY THE BOARD. THESE RECORDS SHALL BE KEPT AT THE PRINCIPAL OFFICE OF THE APPLICATOR FOR A PERIOD OF 2 YEARS, AND SHALL BE OPEN TO INSPECTION BY AGENTS OF THE BOARD UPON REQUEST.

ANY VIOLATIONS OF THE RULES AND REGULATIONS SHALL BE CAUSE FOR SUSPENSION OR REVOCATION OF THE PERMIT, AND SHALL ALSO BE A MISDEMEANOR PUNISHABLE BY A FINE OF NOT LESS THAN \$100.00 AND NOT MORE THAN \$300.00 OR BY IMPRISONMENT IN THE COUNTY JAIL FOR NOT LESS THAN 30 DAYS NOR MORE THAN 6 MONTHS, OR BY BOTH FINE AND IMPRISONMENT.

OUT OF STATE APPLICATORS WILL BE REQUIRED TO PAY A LICENSE FEE OF \$25.00 FOR EACH AIRCRAFT AND A SURETY BOND OF AT LEAST \$15,000.00 WILL BE FILED WITH THE BOARD. THE NON-RESIDENT APPLICATOR IS REQUIRED TO APPOINT A RESIDENT SERVICE AGENT.

OREGON - NO PERSON SHALL ENGAGE IN THE CUSTOM APPLICATION OF PESTICIDES IN OREGON WITHOUT A LICENSE FROM THE DEPARTMENT OF AGRICULTURE. A WRITTEN



EXAMINATION MUST BE PASSED TO RECEIVE AN APPLICATORS LICENSE, THE EXAMINATION INCLUDES QUESTIONS TO DETERMINE AN APPLICANT'S KNOWLEDGE OF THE EFFECT OF PESTICIDES, PRACTICES OF APPLICATION, CONDITIONS AND TIMES OF APPLICATIONS, AND PRECAUTIONS TO BE TAKEN, AND APPLICABLE LAWS, RULES, AND REGULATIONS.

EACH LICENSE SHALL EXPIRE ON THE 31ST OF DECEMBER OF EACH YEAR. EACH PIECE OF APPLICATION EQUIPMENT MUST ALSO BE REGISTERED WITH THE DEPARTMENT. THE FEE FOR APPLICATOR'S LICENSE IS \$10.00 AND FOR EACH PIECE OF EQUIPMENT IS \$2.00.

THE DEPARTMENT MAY SUSPEND, REVOKE OR MODIFY ANY LICENSE IF THE LICENSEE HAS APPLIED PESTICIDES IN A FAULTY OR NEGLIGENT MANNER, OR HAS VIOLATED ANY RULES OR REGULATIONS.

IN THE EVENT OF JUDGEMENT ENTERED AGAINST A NEGLIGENT APPLICATOR HE MUST SHOW PROOF TO THE DEPARTMENT OF FINANCIAL RESPONSIBILITY. THIS MUST BE IN THE AMOUNT OF AT LEAST \$25,000.00, IN BOND OR INSURANCE POLICY. AN APPLICATOR MAY NOT CONDUCT FURTHER BUSINESS IN APPLICATION UNTIL ANY FINANCIAL RESPONSIBILITY PROOF AGAINST A JUDGEMENT HAS BEEN MET. IN THE EVENT OF SUIT OR LOSS CLAIM FILED WITH THE DEPARTMENT, THE DEPARTMENT WILL INVESTIGATE AND MEDIATE, AND ALSO DETERMINE THE DAMAGES. THE LOSS CLAIM MUST BE FILED WITHIN 30 DAYS OF THE TIME THE CLAIMANT DISCOVERED SUCH LOSS, OR, IN THE EVENT OF LOSS TO GROWING CROPS, THE CLAIM MUST BE FILED BEFORE 50 PER CENT OF THE CROP HAS BEEN HARVESTED.

VIOLATIONS OF ANY OF THE REGULATIONS UPON CONVICTION IS PUNISHABLE BY A FINE OF NOT LESS THAN \$25.00 AND NOT MORE THAN \$500.00 OR BY IMPRISONMENT IN THE COUNTY JAIL, OR BOTH.

PENNSYLVANIA - THE STATE OF PENNSYLVANIA RECOGNIZES FAA WAIVER OF ALTITUDE AND PROXIMITY, APPLICATION OF 2, 4-D IN ESTER FORM IS PROHIBITED.

RHODE ISLAND - LICENSES ARE ISSUED BY THE CHIEF OF DIVISION OF ENTOMOLOGY AND PLANT INDUSTRY. A FEE OF \$10.00 MUST ACCOMPANY EACH APPLICATION.

THE LICENSE IS BASED ON AN APPLICANTS KNOWLEDGE OF ECONOMIC POISONS AND THEIR EFFECT ON CROPS, GROWING PLANTS, LIVESTOCK, AND WILDLIFE WHEN MISAPPLIED. KNOWLEDGE OF PROPER DOSING TO CONTROL OR ERADICATE PESTS IS REQUIRED. KNOWLEDGE OF SUSCEPTIBILITY OF ECONOMIC POISONS TO WIND DRIFT AND AIR CURRENTS. HE MUST HAVE EXPERIENCE IN APPLICATIONS OF ECONOMIC POISONS. KNOWLEDGE OF THE USE OF EQUIPMENT FOR APPLICATION OF SUCH POISONS IS REQUIRED. HE MUST LIST ANY UNSATISFIED JUDGEMENTS OF SUITS AGAINST HIM, ARISING FROM SUCH APPLICATIONS.

VIOLATORS ARE GUILTY OF A MISDEMEANOR.

LICENSE IS NOT TRANSFERABLE. LICENSEE MUST KEEP THE CHIEF NOTIFIED OF ANY CHANGE OF ADDRESS WITHIN 10 DAYS OF SUCH A CHANGE.

SOUTH CAROLINA - SPRAY PILOTS MUST OBTAIN A LICENSE FROM THE AERONAUTICS COMMISSION. PILOTS MUST HOLD COMMERCIAL RATING WITH AT LEAST 300 HOURS LOGGED TIME, 25 HOURS OF WHICH MUST BE IN AERIAL APPLICATION.

IF THE PILOT LACKS THE NECESSARY 25 HOURS OF AERIAL APPLICATION EXPERIENCE, HE MUST RECEIVE THE TIME UNDER DIRECT SUPERVISION OF AN AERIAL APPLICATOR LICENSED BY SOUTH CAROLINA. SAID APPLICATOR MUST SIGN A SWORN STATEMENT THAT THE PILOT RECEIVED THE 25 HOURS EXPERIENCE UNDER HIS DIRECT SUPERVISION. IF THE 25 HOURS IS PERFORMED OUTSIDE THE STATE THE PILOT MUST PRODUCE SWORN DOCUMENTARY EVIDENCE BY THE PERSON WHO SUPERVISED HIS TRAINING.

PERMITS ARE ISSUED JANUARY 1 EACH YEAR WITHOUT CHARGE ON FORMS SUPPLIED BY THE COMMISSION. PERMITS ARE VALID ONLY FOR THE YEAR IN WHICH THEY ARE ISSUED AND EXPIRE DECEMBER 31. PERMITS MAY BE REVOKED FOR CAUSE OR THE COMMISSION MAY REFUSE TO ISSUE OR RE-ISSUE PERMITS.

SOUTH DAKOTA - AERIAL APPLICATORS MUST HAVE A LICENSE OR PERMIT ISSUED BY THE STATE BOARD OF AERONAUTICS, UNLESS A PERMIT ISSUED BY THE DEPARTMENT OF AGRICULTURE SUPERCEDES IT.

A PERSON OPERATING AN AIRCRAFT FOR APPLICATION MUST HAVE A MINIMUM OF 750 HOURS OF SOLO FLIGHT TIME, 250 HOURS OF WHICH MUST HAVE BEEN IN THE AIRPLANE TYPE TO BE USED, AND 1-2 OF THE SOLO FLIGHT TIME SHALL HAVE BEEN WITHIN THE LAST 12 MONTHS. OR HE MAY HAVE 500 HOURS SOLO, 250 HOURS IN THE TYPE AIRCRAFT TO BE USED, 1-2 IN THE LAST 12 MONTHS, AND 25 HOURS IN APPLYING CHEMICALS BY AIR. A PERSON WITH 2000 SOLO HOURS AND 40 SOLO HOURS IN THE TYPE AIRCRAFT TO BE USED CAN APPLY ANY CHEMICAL MATERIALS, IF SO LICENSED.

THERE ARE REGULATIONS PERTAINING TO THE TRAINING OF PILOTS, WHO HAVE 250 HOURS IN THE TYPE AIRCRAFT TO BE USED, 1-2 OF WHICH WAS IN THE LAST 12 MONTHS, AND WHO HAS HAD 15 HOURS UNDER THE SUPERVISION OF A QUALIFIED INSTRUCTOR CARRYING WATER EQUIVALENT TO THE LOAD OF SPRAY MATERIALS, MAY BE LICENSED BY THE STATE AERONAUTICS COMMISSION.

A PERMIT MUST BE OBTAINED FROM THE DEPARTMENT OF AGRICULTURE FOR THE EQUIPMENT AND FOR THE OPERATOR AND PILOT OF THE AIRCRAFT. ALL APPLICATIONS SHALL BE ACCOMPANIED BY A \$5.00 FEE. NO PERMIT SHALL BE ISSUED UNTIL THE EQUIPMENT AND PILOT SHALL HAVE BEEN LICENSED OR CLEARED BY THE DEPARTMENT OF AERONAUTICS. EACH PERMIT SHALL EXPIRE ON THE END OF THE CALENDAR YEAR IN WHICH IT WAS ISSUED. ALSO THE APPLICANT MUST PROVE THAT HE IS WORTH \$2000.00 ABOVE AND BEYOND HIS DEBTS AND LIABILITIES, AND PROPERTY EXEMPT FROM EXECUTION.

ALL RULES AND REGULATIONS OF THE DEPARTMENTS OF AGRICULTURE AND AERONAUTICS MUST BE ADHERED TO OR BE GUILTY OF A MISDEMEANOR.

EACH OPERATOR MUST KEEP A RECORD OF APPLICATIONS CONTAINING CUSTOMERS' NAME, MAILING ADDRESS, DATE OF SPRAYING, LOCATIONS OF FIELD, CROP OR PROPERTY TREAT-

ED, PURPOSE OF TREATMENT, NUMBER OF ACRES, WIND DIRECTION AND VELOCITY, TEMPERATURE, DIRECTION OF FLIGHT, CHEMICAL USED, ACTIVE INGREDIENT PER GALLON, TOTAL GALLONS OR POUNDS PER ACRE, REMARKS. REPORT FORMS SHALL BE FURNISHED BY THE STATE.

NO CHEMICALS SHALL BE SPRAYED TO WITHIN 10 RODS OF STREAMS, LAKES OR PONDS OR OTHER WATER SOURCES. EQUIPMENT USED SHALL PROVIDE A POSITIVE SHUT-OFF CONTROL TO PREVENT ANY DISSEMINATION OVER ANY GROUND OR CROPS FOR WHICH THE MATERIAL IS NOT INTENDED. WIDTH OF SWATH SHALL NOT EXCEED 45 FEET.

APPLICANTS FOR LICENSE MUST PASS AN EXAMINATION BEFORE A LICENSE WILL BE ISSUED.

IF AN APPLICATOR IS SUED FOR DAMAGES, HE MUST NOTIFY THE SECRETARY OF AGRICULTURE WITHIN 10 DAYS OF THE FILING OF THE SUIT.

**TENNESSEE** - ANY PERSON OR FIRM WHO ENGAGES IN THE BUSINESS OF PEST OR PLANT DISEASE CONTROL MUST HAVE A LICENSE ISSUED BY THE DEPARTMENT OF AGRICULTURE. WRITTEN APPLICATION MUST BE MADE TO THE DEPARTMENT FOR EXAMINATION 3 DAYS PRIOR TO THE EXAMINATION DATE. EACH APPLICANT MUST HAVE A MINIMUM OF 2 YEARS EXPERIENCE OR 2 YEARS OF COLLEGE TRAINING IN THE FIELD FOR WHICH HE IS APPLYING. THERE ARE TWO CLASSES OF LICENSE ISSUED, FIRST AND SECOND. THE FIRST CLASS LICENSE IS FOR UNSUPERVISED PERSONNEL, AND THE SECOND CLASS LICENSE IS FOR LIMITED SUPERVISION PERSONNEL. THERE IS NO FEE FOR THE FIRST EXAMINATION, BUT IF THE APPLICANT FAILS TO QUALIFY IN THE FIRST TEST, A FEE OF \$10.00 FOR EACH ADDITIONAL TEST NECESSARY MAY BE CHARGED.

THE LICENSE FEE IS \$10.00 AND THE LICENSE SHALL EXPIRE ON THE 30TH OF JUNE OF EACH YEAR. A FEE OF \$3.00 SHALL BE PAID FOR EACH SOLICITOR HIRED OR EMPLOYED BY THE LICENSEE.

A BOND MUST BE PROCURED AND PROOF THEREOF FURNISHED TO THE DEPARTMENT OF AGRICULTURE IN THE AMOUNT OF \$1000.00.

EACH LICENSED OPERATOR SHALL REPORT HIS ACTIVITIES FOR THE MONTH WITHIN 15 DAYS OF THE END OF THE MONTH. ALL WORK SHALL BE DONE ONLY BY CONTRACT, AND EACH CONTRACT REPORTED SHALL CARRY AN OPERATIONAL FEE OF \$3.00. FOR EACH CONTRACT NOT REPORTED THE COMMISSION IS AUTHORIZED TO LEVY A FEE OF \$5.00 PLUS 10 PER CENT REQUIRED.

THE PENALTY FOR VIOLATION OF ANY REGULATIONS MAY BE CHARGED WITH A MISDEMEANOR AND, IF FOUND GUILTY, BE FINED NOT LESS THAN \$50.00 FOR THE FIRST OFFENSE, AND NOT LESS THAN \$100.00 FOR EACH SUBSEQUENT OFFENSE.

**TEXAS** - TEXAS USES A SYSTEM WHEREBY EACH COUNTY HAS DIFFERENT REGULATIONS GOVERNING THE APPLICATION OF CERTAIN CHEMICAL MATERIALS. IN MOST COUNTIES THE APPLICATION OF ANY MATERIAL TO ANY CROP MUST FIRST BE APPROVED BY THE COMMISSIONER OF AGRICULTURE, AND IN MOST CASES, UNDER NO CIRCUMSTANCES



MAY 2, 4-D BE APPLIED ANY CLOSER THAN 2 MILES TO THE NEAREST COTTON CROP, AND IN SOME CASES MUST BE MADE UNDER THE DIRECTION OF THE DEPARTMENT OF AGRICULTURE.

NO PERSON SHALL APPLY MATERIALS FOR MORE THAN 10 ACRES IN ANY ONE YEAR WITHOUT FIRST GETTING A PERMIT. A BLANKET PERMIT CAN BE PROCURED BY A CUSTOM APPLICATOR, AND A REPORT MUST BE SUBMITTED TO THE DEPARTMENT WITHIN 7 DAYS OF ANY APPLICATION. A FEE OF 10 CENTS AN ACRE WILL BE SUBMITTED WITH THE APPLICATION FOR THE PERMIT. ALL EQUIPMENT USED MUST FIRST BE INSPECTED BEFORE IT IS LICENSED. ALL EQUIPMENT IN AIRCRAFT MUST BE INSPECTED EVERY 30 DAYS. AN AIRCRAFT PERMIT INSPECTION FEE OF \$10.00 MUST BE PAID FOR EACH AIRCRAFT AND FOR EACH INSPECTION.

ALL APPLICATORS MUST HAVE A SURETY BOND FOR \$20,000.00 AND INCREASED \$2000 FOR EACH PIECE OF EQUIPMENT USED FOR HIRE.

NO PERSON SHALL SPRAY IN A WIND VELOCITY OF MORE THAN 10 MILES AN HOUR. THE OUTLET PRESSURE ON AIRCRAFT EQUIPMENT MAY NOT EXCEED 30 POUNDS PER SQUARE INCH. ALL SPRAY SHALL NOT BE RELEASED AT MORE THAN 10 FEET ABOVE GROUND LEVEL.

USING 1 POUND OF CONCENTRATE PER ACRE THE VELOCITY OF WIND TO DISTANCE TO THE SUSCEPTIBLE CROPS RATIO IS:

<u>WIND VELOCITY</u>	<u>DOWNWIND</u>	<u>UPWIND</u>
0-3 MPH	1 MILE	1-2 MILE
4-6 MPH	2 MILES	1-8 MILE
7-10 MPH	4 MILES	250 FEET

THE RATIO SHALL CHANGE FOR CONCENTRATIONS EXCEEDING ONE POUND PER ACRE AT THE SAME PROPORTION AS ONE POUND BEARS TO THE DISTANCE.

HORMONE-TYPE HERBICIDES SHALL NOT BE TRANSPORTED OVER OR ACROSS COUNTRY FOR A DISTANCE OF NOT MORE THAN 5 MILES, EXCEPT AS AUTHORIZED BY THE COMMISSIONER. SPRAYING EQUIPMENT SHALL NOT BE MOVED MORE THAN 5 MILES WITHOUT CLEANING THOROUGHLY.

FOR VIOLATIONS OF THE REGULATIONS A FINE MAY BE LEVIED OF NOT LESS THAN \$100.00 NOR MORE THAN \$2,000.00 OR CONFINED TO JAIL FOR NOT MORE THAN 30 DAYS OR BOTH.

ALL DEALERS OF HERBICIDES MUST PAY A \$100.00 LICENSE FEE.

UTAH - NO PERSON SHALL ENGAGE IN APPLICATION OF PESTICIDES, ETC., UNLESS LICENSED BY THE BOARD OF AGRICULTURE. EACH APPLICATION SHALL CONTAIN THE APPLICANT'S QUALIFICATIONS AND PROPOSED OPERATIONS, AND OTHER RELEVANT MATTERS.

THE APPLICANT MUST TAKE AND PASS AN EXAMINATION SHOWING HIS COMPETENCE AND KNOWLEDGE CONCERNING THE USE OF CHEMICAL MATERIALS, AND THE DANGERS INHERENT IN THEM. THE FEE FOR THE LICENSE IS \$5,00.

THE BOARD MAY PROVIDE FOR INSPECTION OF ANY EQUIPMENT USED IN APPLICATION.

THE BOARD MAY REQUIRE KEEPING OF RECORDS, AND MAY REQUIRE THE RECORDS BE AVAILABLE TO THEM CONCERNING THE APPLICATION OF MATERIALS.

ANY PERSON VIOLATING THE REGULATIONS OF THE BOARD SHALL BE GUILTY OF A MISDEMEANOR AND UPON CONVICTION BE FINED NOT MORE THAN \$50.00 FOR THE FIRST OFFENSE, AND NOT MORE THAN \$500.00 FOR EACH SUBSEQUENT OFFENSE.

MEMBERS OF THE BOARD OR THEIR REPRESENTATIVES MAY ENTER ANY PREMISES TO INSPECT ANY SUPPLIES, RECORDS, AIRCRAFT OR GROUND EQUIPMENT SUBJECT TO THE REGULATIONS.

VERMONT - PRIOR TO ANY FLIGHT FOR THE PURPOSE OF AERIAL APPLICATION, THE OWNER OF SUCH AIRCRAFT SHALL APPLY TO THE AERONAUTICS BOARD FOR THE AUTHORITY TO CONDUCT SUCH FLIGHT OR FLIGHTS.

APPLICATION SHALL BE MADE ON FORMS SUPPLIED BY THE BOARD, AT LEAST 10 DAYS IN ADVANCE OF THE OPERATIONS REFERRED TO IN THE APPLICATION.

NO MATERIALS SHALL BE DISPERSED UNLESS THE MATERIAL HAS BEEN APPROVED BY THE VARIOUS SERVICES OF THE STATE OR BOARDS.

INSURANCE COVERAGE IS NOT REQUIRED, BUT MUST BE LISTED ON THE APPLICATION IF IT IS CURRENTLY CARRIED.

VIRGINIA - NO RESIDENT OF THE STATE OF VIRGINIA SHALL ACT AS PILOT, MECHANIC, OR CREW, INCLUDING MAINTENANCE PERSONNEL, UNLESS CURRENTLY LICENSED BY THE STATE OF VIRGINIA CORPORATE COMMISSION.

THE APPLICANT MUST HAVE A CURRENT FAA LICENSE AND MEDICAL. THE APPLICATION WILL BE MADE ON A FORM FURNISHED BY THE COMMISSION, AND SHALL BE UNDER OATH. ALL LICENSES SHALL LAST 2 YEARS. ALL AIRCRAFT OWNED BY RESIDENTS OF THE STATE AND EVERY AIRCRAFT OPERATING IN THE STATE SHALL HAVE A LICENSE. THE AIRCRAFT LICENSE SHALL BE MADE ON A FORM FURNISHED BY THE COMMISSION, AND ARE FOR THE DURATION OF ONE YEAR FROM THE DATE OF ISSUANCE. THE FEES FOR AIRCRAFT LICENSE IS \$2,00.

ALL AIRPORTS AND LANDING AREAS WITHIN THE STATE MUST BE LICENSED. A FEE OF \$25,00 SHALL ACCOMPANY THE APPLICATION FOR LICENSE. THE LICENSE IS GOOD UNTIL SUSPENDED, MODIFIED, OR REVOKED.

APPLICATION FOR A TEMPORARY LANDING AREA PERMIT MAY BE MADE, BY THE COMMISSION. THE APPLICATION MUST BE MADE AT LEAST 2 WEEKS IN ADVANCE OF THE PROPOSED OPERATING DATE.

AERIAL APPLYING AIRCRAFT WITHIN THE STATE MUST BE LICENSED BY THE COMMISSION, APPLICATION FOR WHICH MUST BE MADE BY THE OWNER OF THE AIRCRAFT.

THE AIRCRAFT MUST BE FURNISHED WITH AN ADEQUATE SHOULDER HARNESS. NO CERTIFICATE WILL BE ISSUED UNTIL THE COMMISSION IS FURNISHED ADEQUATE PROOF OF THE FINANCIAL RESPONSIBILITY OF THE APPLICANT. THE SURETY SHALL IN NO CASE BE LESS THAN \$15,000.00 DEATH OR INJURY TO ANY PERSON, \$30,000.00 PUBLIC LIABILITY, AND \$5,000.00 PROPERTY DAMAGE.

CERTIFICATES FOR AERIAL APPLICATORS SHALL REMAIN IN EFFECT FOR ONE YEAR UNLESS REVOKED OR SUSPENDED BY THE COMMISSION.

ALL PILOTS OPERATING APPLYING AIRCRAFT SHALL BE REGISTERED. HE MUST SUBMIT EVIDENCE OF HIS FAA RATINGS, AND MUST HAVE LOGGED 50 HOURS WHILE ENGAGED IN AERIAL APPLICATION. AN INSTRUCTION PERMIT MAY BE PROCURED FROM THE COMMISSION FOR THE PURPOSE OF TRAINING FOR A PERIOD OF 90 DAYS, AND THE TRAINING MUST BE UNDER THE SUPERVISION OF AN AERIAL APPLICATOR REGISTERED BY THE COMMISSION. THE REGISTRATION OF AERIAL APPLICATORS LICENSE SHALL BE FOR THE PERIOD OF ONE YEAR.

FEES FOR THE LICENSING OF PILOTS SHALL BE ONE DOLLAR A YEAR FOR STUDENT AND PRIVATE PILOTS, AND ONE DOLLAR SEMI-ANNUALLY FOR COMMERCIAL PILOTS, AND ONE DOLLAR EVERY TWO YEARS FOR AIRCRAFT AND ENGINE MECHANICS. THE COMMISSION SHALL HAVE THE AUTHORITY TO LEVY FINES NOT TO EXCEED \$100.00 FOR EACH OFFENSE, AND EACH DAY'S VIOLATION SHALL BE CONSIDERED A SEPARATE OFFENSE.

THE SALE OF ECONOMIC POISONS, (PESTICIDES, ETC.) SHALL BE REGISTERED WITH THE STATE DEPARTMENT OF AGRICULTURE. ALL REGULATIONS BY THE DEPARTMENT OF AGRICULTURE MUST BE ADHERED TO.

WASHINGTON - ALL COMMERCIAL APPLICATORS ARE REQUIRED TO GET AN APPLICATORS LICENSE, AND MUST KEEP ALL EQUIPMENT IN GOOD REPAIR. ALL PERSONS APPLYING MATERIALS MUST KEEP RECORDS CONTAINING THE FOLLOWING: THE NAME OF THE PERSON FOR WHOM THE MATERIAL WAS APPLIED, THE LOCATION OF THE LAND WHERE APPLIED, THE YEAR, MONTH, DAY, AND TIME APPLIED, PERSON OR FIRM WHO SUPPLIED THE PESTICIDE, THE TRADE NAME OF THE PESTICIDE, DIRECTION AND VELOCITY OF THE WIND, AND THE TEMPERATURE AT THE TIME THE MATERIAL WAS APPLIED, THE AMOUNT OF CONCENTRATION (POUNDS OR GALLONS PER ACRE) AND PERCENTAGE OF ACTIVE INGREDIENT, OR CONCENTRATION PER 100 GALLONS, SPECIFIC CROP TO WHICH APPLIED, APPARATUS NUMBER (LICENSE FOR GROUND OR FAA REGISTRATION NUMBER FOR AIR), OPERATOR'S NAME AND ADDRESS.

THESE RECORDS MUST BE KEPT FOR A PERIOD OF 3 YEARS FROM THE DATE OF APPLICATION AND THE DIRECTOR SHALL BE FURNISHED A COPY IF HE REQUESTS SAME IN WRITING.



GROWERS SHALL ALSO BE FURNISHED A COPY OF THE RECORDS IF THEY SO REQUEST TO BE WRITING.

APPLICATORS MAY NOT DUMP OR ABANDON MATERIALS WHERE THEY WILL BE HARMFUL. ALL APPARATUS MUST BE CLEANED, SO THAT THEY TOO WILL NOT BE HARMFUL TO HUMANS OR ANIMALS OR SUSCEPTIBLE CROPS. MATERIALS MUST NOT BE APPLIED IF THE WEATHER CONDITIONS ARE SUCH THAT DAMAGE WOULD RESULT IN ADJACENT AREAS. THE DIRECTOR MAY REQUEST AN INSPECTION FOR ANALYSES OF THE EQUIPMENT AND MATERIALS.

ALL PILOTS AND AIRCRAFT SHALL BE GOVERNED BY THE STATE AERONAUTIC COMMISSION. THEY MUST PRESENT A WRITTEN NOTIFICATION FROM THE AERONAUTICS COMMISSION TO THE EFFECT THAT THE APPLICANT AND HIS AIRCRAFT HAVE FULLY COMPLIED WITH THEIR REGULATIONS. THE APPLICATOR MUST FULLY COMPLY WITH THE FAA RULES AND REGULATIONS.

FINANCIAL RESPONSIBILITY MUST BE PROVIDED ON A FORM ISSUED BY THE DEPARTMENT OF AGRICULTURE LISTING:

NAME OF INSURED, ADDRESS OF INSURED, POLICY NUMBER, PLANE NUMBER, EFFECTIVE PERIOD, AMOUNT OF INSURANCE PROVIDED (PERSONAL INJURY \$25,000 MINIMUM, PROPERTY DAMAGE \$25,000 MINIMUM), LIST OF ANY MATERIALS NOT COVERED BY THE POLICY, AND ACKNOWLEDGEMENT OF 10 DAY PRIOR WRITTEN NOTICE OF CANCELLATION OR REDUCTION IN INSURANCE.

WEST VIRGINIA - AT THE PRESENT THERE ARE NO LAWS GOVERNING AERIAL APPLICATION OF MATERIALS IN THE STATE OF WEST VIRGINIA.

WISCONSIN - THE STATE OF WISCONSIN AT THIS TIME HAS NO GOVERNING REGULATIONS CONCERNING THE AERIAL APPLICATION OF CHEMICAL MATERIALS. THERE IS A LICENSE REQUIRED TO OFFER FOR SALE CHEMICAL MATERIALS FOR CONTROL OF PESTICIDES, ETC. THE APPLICANT WHO SELLS MATERIALS MUST REGISTER WITH THE DEPARTMENT OF AGRICULTURE.

THE APPLICANT MUST SHOW NAME AND ADDRESS OF THE REGISTRANT, AND MUST APPEAR ON THE LABEL AS MANUFACTURER, PACKER OR DEALER, NAME OF THE CHEMICAL, A COMPLETE COPY OF THE LABELLING, AND STATEMENT OF ALL CLAIMS, ETC. FOR EACH CHEMICAL REGISTERED, THERE IS A FEE OF \$10.00. THE REGISTRANT NEED PAY ONLY UP TO \$100.00 IN ANY CALENDAR YEAR FOR REGISTERING ALL MATERIALS.

WYOMING - ON THE FIRST MONDAY OF MAY OF EACH YEAR ANY PERSON ENGAGED IN THE BUSINESS OF AERIAL APPLICATION, AND ALL AIRCRAFT IN WYOMING WITH APPLICATION APPARATUS MUST BE REGISTERED WITH THE WYOMING AERONAUTICS COMMISSION, AND MUST BE REGISTERED ANNUALLY. THE FORM OF REGISTRATION SHALL BE SUPPLIED BY THE COMMISSION, AND CONTAINS THE FOLLOWING: NAME AND ADDRESS OF THE OWNER OR OWNERS, NAME OF THE FIRM, NAME OF THE MANAGER, NAME AND ADDRESS OF THE

PILOT, HIS AIRMAN RATING, NUMBER OF HOURS FLOWN, AIRMAN IDENTIFICATION NUMBER,

IT SHALL BE UNLAWFUL FOR ANY PERSON OR PERSONS TO ENGAGE IN AERIAL APPLICATION WITHOUT BEING REGISTERED.

ALL PILOTS, OPERATORS, OR APPLICATORS MUST HAVE A MINIMUM OF 500 HOURS SOLO, 75 IN THE SAME TYPE AIRCRAFT USED IN THE MAKING OF APPLICATION, AND 25 HOURS ACTUAL SPRAY EXPERIENCE, PROVIDED, HOWEVER, A PILOT MAY SATISFY THE REQUIREMENT BY TAKING 5 HOURS DUAL SIMULATED LOW FLYING FROM A QUALIFIED INSTRUCTOR.

EACH AIRCRAFT SHALL HAVE A POSITIVE SHUT-OFF DEVICE AT EACH DISCHARGE NOZZLE WHICH WILL ABSOLUTELY PREVENT THE DISSEMINATION OF MATERIAL OVER ANY AREA BUT THAT WHICH IS TO BE SPRAYED.

EACH OPERATOR MUST MAINTAIN A RECORD OF EACH APPLICATION, AND THESE RECORDS MUST BE AVAILABLE FOR THE INSPECTION BY OFFICIALS OF AERONAUTICS COMMISSION. COPIES OF SUCH RECORDS SHALL BE TRANSMITTED TO THE COMMISSION WITHIN 10 DAYS AFTER THE END OF EACH CALENDAR MONTH DURING THE PERIOD OF OPERATION. THE RECORDS SHALL CONTAIN THE FOLLOWING: NAME AND ADDRESS OF THE CONTRACTEE, PROPERTY DESCRIPTION, VARIETY OF CROP TREATED, STATE OF CROP GROWTH, PESTS, OR WEEDS TO BE CONTROLLED, BRAND AND TYPE CHEMICAL USED, QUANTITY OF CHEMICAL PER ACRE, DATE AND TIME SPRAYED OR TREATED, WIND VELOCITY AND DIRECTION.

ANY VIOLATION OF THE REGULATIONS SHALL BE A MISDEMEANOR AND SUBJECT TO A FINE OF NOT LESS THAN \$25.00 FOR THE FIRST OFFENSE, AND NOT LESS THAN \$50.00 FOR EACH SUBSEQUENT OFFENSE, OR BY IMPRISONMENT IN THE COUNTY JAIL NOT EXCEEDING 60 DAYS, OR BOTH.

The image shows three overlapping forms, labeled A, B, and C, which are part of a regulatory system for aerial application. Form A is a large table with multiple columns and rows, likely for recording application data. Form B is a smaller form with sections for 'AIRCRAFT INFORMATION' and 'APPLICATION INFORMATION'. Form C is a form with sections for 'GENERAL INFORMATION' and 'APPLICATION INFORMATION'.

Fig. 4.



Fig. 5. Facsimile of FAR Parts 20, 43 and 60.

Fig. 6. Waiver

Fig. 7.

Weed and Insecticide Reports

MANY STATES ARE REVISING OR PASSING NEW REGULATIONS. CLEAR THRU THE STATE AERONAUTICS COMMISSION AND STATE DEPARTMENTS OF AGRICULTURE FOR THE LATEST INFORMATION.



## Is Uniform Control Possible?

There is wide diversity in agricultural crops throughout the United States:—fruits and vegetables in the northeast, semi-tropicals and cotton in the south, corn in the middle states, small grain in the Great Plains area, fruit in the northwest and a wide variety of garden crops in the southwest. Obviously, the problem of air-application, such as the drift hazard, will need much greater consideration in susceptible crop areas. For this reason, some phases of agricultural aviation control must be dictated by local conditions.

Types of terrain is a second factor which prevents uniform control. The rolling, hilly terrain of the northwest presents problems in application not present in the plains of Kansas and Nebraska. The handling of an airplane at elevation of 4 to 6 thousand feet as compared to near sea level operation presents a problem in flight technique. When it comes to forest spraying and seeding which requires low flying in rugged high terrain, still more problems are presented.

Allowing for terrain and crop differences, the air-applicating industry is much the same over the United States and many of the laws controlling it could be uniform throughout the nation. In other words, the basic elements of spraying, dusting, seeding and fertilizing are the same regardless of geography.

The natural geographic boundaries of certain crop areas do not coincide with state political boundaries. It therefore puts a uniform regulation burden upon the air-applicating firm which wishes to operate in several states. A maximum of uniformity is desirable.

The following sample uniform act embraces the elements which can be uniform throughout the states and provides also for differences in local conditions.

## *Model State Law*

Recognizing the need for uniformity in the state enactments controlling agricultural aviation a model act was drawn up through the co-operation of the following agencies:

Council of State Governments

Association of Economic Poisons Control Officials

National Association of State Aviation Officials

National Association of Commissioners, Secretaries, and  
Directors of Agriculture

Federal Aviation Administration  
United States Public Health Service  
United States Department of the Interior  
United States Department of Agriculture

The sample act is preceded by the following interpretative statement:

**AN ACT RELATING TO CUSTOM APPLICATION OF  
INSECTICIDES, FUNGICIDES, AND HERBICIDES**

(This is an interpretative statement, the Act itself follows.)

*Purpose*

This bill has been prepared in order to assist states which find it necessary to adopt or revise legislation regulating the application of insecticides, fungicides, and herbicides (weed killers) for hire.

In view of widely differing conditions of agricultural production in different parts of the country, the provisions of the bill should be carefully considered and, when necessary, modified to meet local needs.

While this bill has been confined to custom application of insecticides, fungicides and herbicides, it may be found in some states that regulation of other than custom application, particularly by aircraft, is necessary. It should be noted that this bill deals only with the application and use of insecticides, fungicides, and herbicides. It thus covers an entirely different area than the State Insecticide, Fungicide and Rodenticide Act, which deals with the sale of these economic poisons. The latter bill was first carried as suggested State legislation in the Program of 1947. The definitions of terms used in both bills, except for the definition of "person", are identical.

*Problem*

Section 1 of the bill points out that in recent years there has been very rapid advance in the discovery and synthesis of insecticides, fungicides, and herbicides. The most spectacular of these, in many ways, is 2,4-D (2,4-Dichlorophenoxyacetic acid), synthesized in 1941 and first used as a weed killer in 1944. This is a selective weed killer which, generally speaking, will kill broad-leaved plants but not grasses when applied in proper quantities. It is extremely valuable in killing weeds in grains, including wheat, rice, and corn, and in grass used for hay or pasture. However, it drifts very easily and, in some cases, has been known to drift as far as twenty miles when applied in windy weather by aircraft. Considerable drift may occur even when 2,4-D is applied



by means of ground equipment. Damage to broad-leaved plants such as cotton, tomatoes, and other vegetables has resulted from drift. 2,4-D in dust form is particularly likely to drift, and application in this form by aircraft is at present disapproved by the United States Department of Agriculture. While 2,4-D may cause damage, it is, when properly applied, a valuable aid to agricultural production. Obviously, however, its use requires great care.

DDT (Dichloro-diphenyl-trichlorethane) is another synthetic compound which has been found to be extremely valuable for control of certain insects. Recently it has been learned that DDT applied to dairy cattle, in dairy barns, or to fodder intended to be fed to dairy cattle or animals being finished for slaughter may be absorbed into the fat of the cattle or may appear in milk, and, for this reason, the United States Department of Agriculture has recommended that DDT should not be used in these ways. Instead, the Department has recommended that methoxychlor, a still newer synthetic compound, be used. When DDT is used to spray forest areas or shade trees in cities to control insects, care must be taken to see that wildlife is not injured.

Among other new insecticides are benzene hexachloride, chlordane, toxaphene (chlorinated camphene), TDE, parathion, tetraethyl, pyrophosphate, and lindane. Each of these has its proper uses and dangers. Many of these new materials have not been tested under all conditions and their effects are not fully known.

Concurrently with the discovery of new and highly potent insecticides, fungicides and herbicides, the business of custom spraying and dusting, including spraying and dusting by airplane, has greatly expanded. As these chemicals and the practices for applying them properly become more numerous and complex, custom spraying and dusting will undoubtedly continue to increase because of the need for specialized training and equipment. Insecticides, fungicides, and herbicides, along with modern machinery, improved varieties and practices, hybridization, etc., are becoming increasingly important factors in greater agricultural production.

The growth of custom spraying and dusting, the rapidity of new discoveries, the possibility of injury to health and to plants and animals, including wildlife, on lands or in waters adjacent to those being sprayed or dusted, and the possibility of fraudulent practices make public regulation increasingly necessary.

One difficult problem in connection with application of insecticides, fungicides, and herbicides is the question of liability for damage to crops or animals resulting from drift of the materials. This problem is particularly serious in the case of 2,4-D where damage may be very substantial and, at the same time, difficult to prove. No provision relating to liability has been included in the bill. It is felt that it is best



to leave this question, at least until further experience accumulates, to existing laws relating to liability. However, the matter is under study.

The requirements for licensing after examination intended to show that the operator is qualified (section 4 (b) ) and for reports regarding particular applications of insecticides, fungicides and herbicides, (section 7) should help to minimize damage from improper application and to fix responsibility when damage does occur.

### *Provisions of the Bill*

The bill requires that persons engaged in custom application of insecticides, fungicides, or herbicides be licensed. A license would be issued by the Commissioner of Agriculture after the applicant had shown, on examination, that he possessed adequate knowledge concerning the use and application of insecticides, fungicides and herbicides and upon consideration of other pertinent information. The licensee may be restricted to the use of certain types. For example, a custom operator might be found qualified to use ground equipment but not aircraft or to use insecticides and fungicides but not herbicides. The license may be revoked or modified for cause. The grant, denial, or revocation of a license is subject to court review on petition of the aggrieved person. (Section 3).

Under Section 3 (e) a bond may be required from custom operators to secure performance of obligations. The amount of the bond is not specified, as it may be found desirable to fix, by regulation, a larger amount for large operators than for small operators.

Section 4 authorizes inspection of equipment used for application of insecticides, fungicides, or herbicides.

Section 5 authorizes the Commissioner of Agriculture to prescribe materials or methods to be used and to prohibit the use of materials or methods in custom application of insecticides, fungicides and herbicides. Alternative provisions regarding the scope of such regulations are included. In issuing such regulations, consideration is to be given to pertinent research findings and recommendations of State and Federal agencies, such as the State Agricultural Experiment Station and the United States Department of Agriculture.

Under Section 6 licensees may be required to maintain records and submit reports giving specific information with respect to particular spraying or dusting jobs and other information. Reports relating to the time of application, wind velocity, other weather conditions, kind of material applied, and so on, could be required under this provision. Such information may be especially needed in case of 2,4-D and other materials likely to cause damage because of drift.

Section 7 authorizes the Commissioner of Agriculture to make rules and regulations but provides that such regulations shall not be inconsistent with other regulations issued by the State or Federal Government with respect to safety in air navigation or operation of aircraft. In general, the State official responsible for regulation of aircraft would continue to regulate flying from the standpoint of safety and other general aspects. This section also requires the Commissioner to consult with other officials of the State before issuing regulations relating to matters within the jurisdiction of these officials. Application of insecticides, fungicides, and herbicides may concern not only agriculture but also health, forestry, fish and wildlife, etc., as well as regulation of aircraft, and consultation among the officials concerned will frequently be desirable.

Section 8 authorizes the Commissioner of Agriculture, in cooperation with the State Agricultural College, to publish information regarding injury which may result from improper application or handling of insecticides, fungicides, or herbicides and precautions which will help prevent such injury. Much of the damage caused by 2,4-D and other materials results from lack of information as to the effects of the materials and the conditions under which they should be applied. While the act relates principally to custom application, this section will authorize the distribution of information to farmers generally.

Section 10 exempts pest control operators, that is, persons engaged in destroying insects or fungi in or under buildings or in vehicles of transportation, such as termite eradication, fumigation of buildings, ships, etc. Outdoor custom application of insecticides, fungicides, and herbicides in cities, e.g., to trees, gardens, lawns, etc., is not exempt. However, consideration should be given to avoiding dual licensing of operators by both the Commissioner of Agriculture and municipalities.

Section 3 (f) and 13 authorize cooperation with other agencies of the State and with agencies of other States and of the Federal Government.

### *AN ACT RELATING TO CUSTOM APPLICATION OF INSECTICIDES, FUNGICIDES, AND HERBICIDES*

Title. It should conform to State requirements. The following is a suggestion; a more complete title should be used where necessary:

"AN ACT relating to the application of insecticides, fungicides, and herbicides by aircraft or ground equipment."

(Be it enacted, etc.)



**SECTION 1. DECLARATION OF PURPOSE:** The purpose of this act is to regulate, in the public interest, the custom application of insecticides, fungicides, and herbicides. In recent years a great many new materials have been discovered or synthesized which are valuable for the control of insects, fungi, and weeds. However, such materials may seriously injure health, property, or wildlife if not properly used. Insecticides may injure man or animals, either by direct poisoning or by gradual accumulation of poisons in the tissues. Crops may also be injured by improper use of insecticides or fungicides. The drifting or washing of insecticides into streams or lakes can cause appreciable damage to aquatic life. A herbicide applied by aircraft or ground equipment for the purpose of killing weeds in a crop which is not itself injured by the herbicide may drift, sometimes for miles, and injure other crops with which it comes in contact. Therefore it is deemed necessary to provide for regulation of the custom application of insecticides, fungicides, and herbicides.

**SECTION 2. DEFINITIONS.** For the purposes of this act—(a) The term "insecticide" means any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any insects which may be present in any environment whatsoever.

(b) The term "fungicide" means any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any fungi.

(c) The term "herbicide" means any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any weed.

(d) The term "insect" means any of the numerous small invertebrate animals generally having the body more or less obviously segmented, for the most part belonging to the class of Insecta, comprising six-legged, usually winged forms, as, for example, beetles, bugs, bees, and flies, and to other allied classes of arthropods whose members are wingless and usually have more than six legs, as, for example, spiders, mites, ticks, centipedes, and wood lice.

(e) The term "fungi" means all non-chlorophyll-bearing thallophytes (that is, all non-chlorophyll-bearing plants of a lower order than mosses and liverworts) as, for example, rusts, smuts, mildews, molds, yeasts, and bacteria, except those on or in living man or other animals.

(f) The term "weed" means any plant which grows where not wanted.

The term "person" means any individual, firm, partnership, association, corporation, company, joint stock association, or body poli-



tic, or any organized group of persons whether incorporated or not; and includes any trustee, receiver, assignee, or other similar representative thereof.

(h) The term "Commissioner" means the Secretary, Commissioner, or Director of Agriculture.

(i) The term "custom application of insecticides, fungicides, or herbicides" means any application of insecticides, fungicides, or herbicides by aircraft or ground equipment for hire. See Section 10 for exemptions.

(j) The term "aircraft" means any contrivance now known or hereafter invented, used or designed for navigation of, or flight in, the air.

The term "ground equipment" means any machine or device (other than aircraft), for use on land or water, designed for, or adaptable to use in applying insecticides, fungicides, or herbicides as sprays, dusts, aerosols, or fogs, or in other forms.

SECTION 3. LICENSES. (a) No person shall engage in custom application of insecticides, fungicides, or herbicides within this state. In states where only certain areas are liable to be affected by the application of insecticides, fungicides, or herbicides, the following could be inserted: "in counties or areas designated by the Commissioner at any time without a license issued by the Commissioner. Application for a license shall be made to the Commissioner. Each application for a license shall contain information regarding the applicant's qualifications and proposed operations and other relevant matters as required pursuant to regulations promulgated by the Commissioner.

(b) The Commissioner may require the applicant to show, upon examination, that he possesses adequate knowledge concerning the proper use and application of insecticides, fungicides, and herbicides, and the dangers involved and precautions to be taken in connection with their application. If the applicant is other than an individual, the applicant shall designate an officer, member, or technician of the organization to take the examination, such designee to be subject to the approval of the Commissioner. If the extent of the applicant's operations warrant it, the Commissioner may require more than one officer, member, or technician to take the examination.

(c) If the Commissioner finds the applicant qualified (and if the applicant files the bond required under paragraph (e) of this section), the Commissioner shall issue a license, for such period as he may by regulation prescribe, to perform custom application of insecticides, fungicides, and herbicides, within this State. The license may restrict the applicant to the use of a certain type or types of equipment

or materials if the Commissioner finds that the applicant is qualified to use only such type or types. If a license is not issued as applied for, the Commissioner shall inform the applicant in writing of the reasons therefor.

(d) The Commission may suspend, pending inquiry, for not longer than ten days, and, after opportunity for a hearing, may revoke or modify the provisions of any license issued under this section, if he finds that the licensee is no longer qualified, has engaged in fraudulent business practices in the custom application of insecticides, fungicides, or herbicides, or has made any custom application in a faulty, careless, or negligent manner, or has violated any of the provisions of this act or regulations made thereunder.

(e) The Commissioner shall require a reasonable bond, with surety satisfactory to the Commissioner, from each applicant, under such rules and regulations as he may prescribe, to secure the performance of contractual obligations of the licensee with respect to custom application of insecticides, fungicides, or herbicides. Any person injured by the breach of such obligation shall be entitled to sue on the bond in his own name in any court of competent jurisdiction to recover the damages he may have sustained by such breach.

(f) The Commissioner may issue a license without examination to a non-resident who is licensed in another State substantially in accordance with the provisions of this act.

(g) Any person aggrieved by any action of the Commissioner may obtain a review thereof by filing in the \_\_\_\_\_ court within 30 days of notice of the action a written petition praying that the action of the Commissioner be set aside. A copy of such petition shall forthwith be delivered to the Commissioner, and within \_\_\_\_\_ days thereafter the Commissioner shall certify and file in the court a transcript of any record pertaining thereto, including a transcript of evidence received, whereupon the court shall have jurisdiction to affirm, set aside or modify the action of the Commissioner, except that the findings of the Commissioner as to the facts, if supported by substantial evidence, shall be conclusive.

**SECTION 4. INSPECTION.** The Commissioner may provide for inspection of any ground equipment or of any device or apparatus used for custom application of insecticides, fungicides, or herbicides by aircraft and may require proper repairs or other changes before its further use for custom application.

**SECTION 5. MATERIALS AND METHODS OF APPLICATION.** The Commissioner may, by regulation after public hearing, prescribe materials or methods to be used and prohibit the use of materials or methods in custom application of insecticides, fungicides and herbicides, to the extent necessary to protect health or property; to protect



health or to prevent injury, by reason of the drifting, washing, or application of such materials, to desired plants or animals (including pollinating insects and aquatic life) on property other than that owned or leased by the person for whom the materials are applied. In issuing such regulations, the Commissioner shall give consideration to pertinent research findings and recommendations of other agencies of this State or of the Federal Government.

**SECTION 6. REPORTS.** The Commissioner may by regulation require any licensee to maintain such records and furnish reports giving such information with respect to particular application of insecticides, fungicides, or herbicides, and such other relevant information as the Commissioner may deem necessary.

**SECTION 7. REGULATIONS.** The Commissioner may, after public hearing, make regulations for carrying out the provisions of this act: *Provided, That*, the regulations shall not be inconsistent with regulations issued by this State or by the Federal Government respecting safety in air navigation or operation of aircraft. Before issuing regulations directly related to any matter within the jurisdiction of any other official of this State the Commissioner shall consult with that official with reference thereto.

**SECTION 8. INFORMATION.** The Commissioner may, in cooperation with (the State Agricultural College) publish information regarding injury which may result from improper application or handling of insecticides, fungicides, and methods and precautions designed to prevent such injury.

**SECTION 9. PENALTIES.** Any person violating the provision of this act or the regulations issued hereunder shall be guilty of a misdemeanor and, upon conviction, shall be fined not more than — dollars for the first offense, and not more than — dollars for each subsequent offense.

**SECTION 10. EXEMPTIONS.** This act shall not apply to custom application of insecticides, fungicides, or herbicides to prevent, destroy, repel, or mitigate insects or fungi within or under buildings (except farm buildings other than dwellings) or within vehicles, ships, aircraft, or other means of transporting persons or property by land, water, or air.

**SECTION 11. ENFORCEMENT.** For the purpose of carrying out the provisions of this act the Commissioner may enter upon any public or private premises at reasonable times in order to have access for the purpose of inspecting any aircraft or ground equipment subject to this act.



**SECTION 12. DELEGATION OF DUTIES.** The functions vested in the Commissioner by this act may be delegated by him to such employees of the Department of Agriculture as the Commissioner may from time to time designate for such purpose.

**SECTION 13. COOPERATION.** The Commissioner may cooperate with any other agency of this State or its subdivisions or with any agency of any other State or of the Federal Government for the purpose of carrying out the provisions of this act and of securing uniformity of regulations.

**SECTION 14. SEPARABILITY.** If any provision of this act is declared unconstitutional, or the applicability thereof to any person or circumstance is held invalid by a court of competent jurisdiction, the constitutionality of the remainder of the act and the applicability thereof to other persons and circumstances shall not be affected thereby.

**SECTION 16. REPEAL.** All acts and parts of acts inconsistent with this act are hereby expressly repealed.

**SECTION 17. EFFECTIVE DATE.** This act shall become effective.

**SAMPLE PREAMBLE TO AN AGRICULTURAL AVIATION LAW**  
(Courtesy California State)

"The application of chemicals and other material and substances used in agricultural pest control operations through the medium of aircraft creates certain inherent hazards not only to the plants or other property to which they are intended to be applied but in cases to other plants, livestock, and sometimes, humans. Some pest control chemicals are volatile and are likely to be carried great distances and deleteriously affect plants, livestock, and humans at places remote from the place where they are deposited in the air. Inasmuch as the pest control business involves operations which result in the contamination of the air with potentially harmful or dangerous substances it is a business affected with a public interest and provision should be made for the protection of persons who may suffer damage by reason of such operations. This act furnishes such protection by requiring proof of financial responsibility of pest control operations against whom judgements for damages for improper operations have been rendered. In order that these provisions may be put into operation prior to the growing season of this calendar year it is necessary that this act take effect immediately.

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